The Builder.

SATURDAY, FEBRUARY 3, 1855.

THE connection between disease and defective structural and economic arrangements, often as we have considered it, continues to demand the most serious attention. The relationship of cholera and fever to cesspools, imperfect drainage, impure water, overcharged graveyards, and want of ventilation, is a great sanitary question, with which we feel ourselves all the more urgently called upon to deal, to the best of our ability and experience, that it is one of which the medical faculty themselves, or their recognised exponents, such as the *Lancet*, admit their almost total ignorance, notwithstanding the hosts of facts, whence an inductive and correct scientific or theoretical knowledge of the subject ought to be derivable. Thus, the editor of the *Lancet* himself, in a recent article, frankly says,—"We think it right to inform the public that however satisfied some people may be upon the matter, the true pathology of cholera has not yet been discovered;" so that "all our methods of treatment, howsoever loudly some of them may be vaunted as rational, are in truth empirical [or quackish], experimental and tentative . . . Who," he adds, "shall give light out of the dense darkness? Alas! the efforts of those who are most competent to the task, are almost overpowered by the ever-thickening cloud! Each new enthusiast shouting 'Eureka!' thinks it was reserved for him to disperse the gloom. Yet he has but contributed a fresh volume of smoke." Some of his professional correspondents are even still more hopelessly despondent. Thus, Mr. Borham says, — "At the mention of the word cholera in the true sense, decimating our population and army, as it has been doing, the practical surgeon is struck with feelings of awe; and if he possess a mind, it becomes enveloped in a confusion of ideas which seem to get more confounded as he proceeds to think!" This is a fearful state of matters amongst our medical advisers, and shows the necessity for renewed and continued inquiries. There is little "smoke" without some illuminative matter in it. Even the gas with which it was of old intended to light up London was regarded but as "smoke," till the little match was put to it, which set it in a blaze of light. It is the duty of every one, as we have heretofore said, in the present perplexity and utter paralysis of medical skill, on a subject of such universal and most vital interest as this is, to contribute any little light that may be in him towards the general illumination of so dark a question.

One thing appears beyond all doubt,—and it is on this we work resolutely, however feebly,—that where human beings are crowded together in ill-arranged dwellings; where the drainage is bad and the cesspool lurks; where refuse rots, the air is vitiated, or the water impure and scanty,—there cholera, when evoked, reigns and slays: those still speak correctly who make King Cholera sing,—

"What is my court? These cellars piled
With filth of many a year—
These rooms with rotting damps defiled—
These alleys where the sun ne'er smiled,
Darkling and drear!

These streets along the river's bank,
Below the rise of tide;
These hovels, set in stifling rank,
Sapped by the earth-damps green and dank—
These cesspools wide.

These yards, whose heaps of dust and bone
Breathe poison all around;
These styes, whose swinish tenants grown
Half human, with their masters own
A common ground.

What are my perfumes? Stink and stench
From slaughter-house and sewer;
The oozing gas from opened trench,
The effluvia of the pools that drench
Courtyards impure."

Two points have been dwelt upon very strongly by the Registrar-General in his reports, as increasing the risk of cholera, namely, lowness of level and impure water. Thus, after pointing out in his report for December last, that the district in which the poorer classes abound suffered generally most from the epidemic, he said, "from an attentive consideration of all the facts, the rich, living on low ground, in houses supplied with impure water, are in great danger during a cholera epidemic; while the industrious hardworking population, living on simple food, in clean houses not much crowded, supplied with pure water, on high ground, or on well-drained ground that has not been a marsh, have little to fear from cholera in England."

Contrasting some of the districts, the Registrar said, "Rotherhithe and Chelsea differ little in rental; but the Chelsea district, supplied by the Chelsea Water Company, is on an elevation of 12 feet, and lost forty-seven inhabitants in 10,000 by cholera; while Rotherhithe, on lower ground (0 feet), supplied with impure water, lost 176 by cholera in 10,000 inhabitants. In Hackney, again, the people are apparently not in better circumstances than the people of Camberwell, yet in the two epidemics cholera was fivefold more fatal in Camberwell than it was in Hackney; Camberwell lying low, and receiving the impure water; Hackney lying high, and receiving, in 1854, a water of better quality."

Now, touching impure water, our present more immediate purpose is to direct attention to a book recently published by Dr. Snow, on the part which is played by the water supply in the spread of cholera and other diseases.*

Dr. Snow considers that the morbid material producing cholera must be introduced into the alimentary canal—must, in fact, be *swallowed*, and that it has the property of reproducing its own kind. Particulars of the *way* in which it is swallowed would scarcely suit our pages: suffice it to say, that the want of personal cleanliness, scarcity of water, deficiency of light, and over-crowding, are shown to concur in bringing this about; and his theory is made to explain why in thousands of instances a case of cholera in one member of the family was followed in hundreds of instances by other cases, whilst medical men and others who merely visited the patients, escaped. The chief means of extension, however, he considers to be the contamination of the water, used for drinking and culinary purposes, by matters, containing the morbid material, either permeating the ground, and getting into wells, or by running along channels and sewers into the rivers, from which entire towns are sometimes supplied with water. The cases where outbreaks of cholera have been traced to the contamination of water by adjoining cesspools, are not few. The peculiarity of Dr. Snow's theory is, that it is not produced by simple contamination, but that the actual matter of the cholera through the dejections of the patient is thus transmitted.

When the terrible outbreak of cholera in Broad-street, Golden-square, and adjacent streets, of which we have had occasion to speak several times, took place, Dr. Snow suspected some contamination of the much-used pump in Broad-street, near the end of Cambridge-street; and he has brought together a number of circumstances which seem to show some connection. Of the eighty-nine deaths from cholera registered during the week ending Sept. 2nd, in the sub-districts of Golden-square, Berwick-street, and St. Ann's, Soho, he found that nearly all had taken place within a short distance of the pump. There were only ten deaths in houses decidedly nearer to another street pump, and in five of these cases the families informed him that they always sent to the pump in Broad-street. "There are certain circumstances bearing on the subject of this outbreak of cholera which require to be mentioned. The workhouse in Poland-street is more than three-fourths surrounded by houses in which deaths from cholera occurred; yet out of 535 inmates only five died of cholera, the other deaths which took place being those of persons admitted after they were attacked. The workhouse has a pump-well on the premises, in addition to the supply from the Grand Junction Waterworks, and the inmates never sent to Broad-street for water. If the mortality in the workhouse had been equal to that in the streets immediately surrounding it on three sides, upwards of 100 persons would have died."

At a brewery in Broad-street, where there were seventy men, none suffered from cholera: few drank water at all, and the few who did, never obtained water from the pump, having a deep well on the premises.

At a percussion-cap manufactory in the same street, where 200 people were employed, two tubs supplied with water from the Broad-street pump, were kept on the premises for those to drink who wished, and eighteen of these people died of cholera at their own homes.

Dr. Snow gives a map of the locality, showing the deaths by a black line in the situation of the house where it occurred, and gives reasons for believing that the deaths either very much diminished, or ceased altogether at every point where it was decidedly nearer to send to another pump than to the one in Broad-street. Against one of the houses, immediately adjoining the pump, there are eighteen black lines! The total number of deaths ascertained was over 600! The pump-well was opened, but did not show any hole or crevice in the brickwork by which impurities might enter. It is stated that the well is from 28 to 30 feet in depth, going through the gravel to the surface of the clay beneath, and that a sewer passes within a few yards of the well 22 feet below the surface. "Whether the impurities of the water," says our author, "were derived from the sewers, the drains, or the cesspools, of which latter there are a number in the neighbourhood, I cannot tell. I have been informed by an eminent engineer, that whilst a cesspool in a clay soil requires to be emptied every six or eight months, one sunk in the gravel will often go for twenty years without being emptied, owing to the soluble matters passing away into the land-springs by percolation. As there had been deaths from cholera just before the great outbreak not far from this pump-well, and in a situation elevated a few feet above it, the evacuations from the patients might of course be amongst the impurities finding their way into the water; and judging the matter by the light derived from other facts and considerations previously detailed, we must conclude that such was the case. A very important point in respect to this pump-well is, that the water passed with almost everybody as being perfectly pure, and it did in fact contain a less quantity of impurity than the water of some other pumps in the same parish, which had no share in the propagation of cholera. We must conclude from this outbreak that the quantity of morbid matter which is sufficient to produce cholera is inconceivably small, and that the shallow pump-wells in a town cannot be looked on with too

* "On the Mode of Communication of Cholera." By John Snow, M.D. &c. London: Churchill, New Burlington-street. 1855.

much suspicion, whatever their local reputation may be."

Tables are given showing the influence which the drinking of water containing the sewage of a town exerts over the spread of cholera, when that disease is present; and some extraordinary facts are deduced from an examination of a part of London where some of the houses are supplied by the Southwark and Vauxhall Company, and others by the Lambeth Company who take their supply at Thames Ditton. The pipes of each company go down all the streets. "Each company supplies both rich and poor, both large houses and small: there is no difference either in the condition or occupation of the persons receiving the water of the different companies. Now it must be evident that, if the diminution of cholera, in the districts partly supplied with the improved water, depended on this supply, the houses receiving it would be the houses enjoying the whole benefit of the diminution of the malady, whilst the houses supplied with the water from Battersea-fields would suffer the same mortality as they would if the improved supply did not exist at all. As there is no difference whatever, either in the houses or in the people receiving the supply of the two water companies, or in any of the physical conditions with which they are surrounded, it is obvious that no experiment could have been devised which would more thoroughly test the effect of water supply on the progress of cholera than this, which circumstances placed ready-made before the observer."

The inquiry gave striking results. In the first seven weeks of the epidemics, the proportion of deaths to 10,000 houses, was, in those supplied by the Southwark and Vauxhall Company, 315; while in those supplied by the Lambeth Company, it was but thirty-seven. In the second seven weeks, when other means of communication came into operation, the difference was not quite so great; but even then the population supplied by the Southwark and Vauxhall, continued to suffer nearly five times the mortality of that supplied by the Lambeth!

Surely there is here matter for the most serious and rigid examination. Dr. Snow considers that typhoid fever is propagated in the same way as cholera, and gives instance upon instance of the production of the fever by the use of polluted water. He justly urges that the diminution of mortality ought not to stop with cholera, as the deaths registered under the name of typhus consist chiefly of this typhoid fever. "Its victims are composed chiefly of persons of adult age, who are taken away from their families and connections. In 1847 upwards of 20,000 deaths were registered in England from typhus, and in 1848 upwards of 30,000 deaths. It is probable that seven times as many deaths have taken place from typhus as from cholera, since the latter disease first visited England in 1831; and there is great reason to hope that this mortality may in future be prevented by proper precautions, resulting from a correct knowledge of the mode of communication of the malady."

We may certainly prepare for the establishment of our long-meditated "Society for Living to a Hundred."

Without adopting Dr. Snow's especial theory, we would ask for his book the most serious consideration of all who may be able to throw light on the subject whereof it treats. We know something of the labour of such inquiries as he has instituted, and can appreciate and admire his zeal and perseverance.

THE LAWS OF HEALTH.—In the Commons last week Mr. Pellatt gave notice that on 6th February he should move for a committee to inquire into the various sanitary Acts.

NEW PATENTS FOR IMPROVEMENTS IN BRICKMAKING.

M. MAGLOIRE A. JULLIENNE, of Paris, has patented "Improvements in Machinery or Apparatus for making Bricks or Tiles." The object of this invention is stated to be the production of bricks or tiles of any shape by compression, the clay being nearly dry when forced into the moulds. In the complete specification which has been filed, the patentee explains the nature of the process, and gives longitudinal and transverse sections of the machinery by which he purposes to conduct it. According to these, the machine for effecting the operation is composed of a strong frame of wood or iron, forming a species of table, having fitted into it a cast-iron frame which carries the various working parts. This frame consists of two longitudinal pieces fixed to the wooden framing by bolts, and united by cross-pieces, between which the moulds are situated. These latter are composed of a double frame of wood, forming two rectangular openings, of the size and shape required for the bricks or tiles. They are open at top and bottom, and lined inside with copper plates. Two vertical frames beneath the table carry two horizontal axes or shafts, which rest in suitable bearings. At the extremity of one of the shafts is a long lever, for the purpose of partially turning it. This same shaft carries also two levers, which are forged upon it: to these levers are attached two chains, the lower ends of which are fixed by bolts to a vertical slide, which forms two rectangular pistons of wood faced with copper, corresponding exactly to the openings of the two rectangular moulds. Each time that this shaft is turned, the short levers draw up the chains, elevate the pressing pistons, and cause them to enter the moulds. An adjustable stop is fitted to the pistons, to limit their descent. Above the machine is fitted a bent lever, which has at one end two flat pieces of wood, which cover the tops of the moulds. These flat covers are held over the moulds by a catch at the opposite end of the lever which carries them, and this catch, which works on a fixed centre, can be engaged or disengaged with the lever by a proper handle. When the catch is removed, the lever turns over on its centre, and removes the covers from the moulds, at the same time that the pistons enter below the moulds, which are then filled with clay. The covers are now brought down again, and the pistons elevated by means of their lever. The bricks are thus to be completed, by the compression which the clay receives between the covers of the boxes and the ascending pistons. In order to eject them from the moulds, the covers are raised, and the pistons elevated still further, to push out the bricks. This movement is effected either by the compressing-lever or another hand-lever on a smaller shaft, which in turn carries at its centre a short lever, attached either by a chain or link to the lower part of the slide which bears the pistons. For moulding bricks of a variety of shapes and sizes, the moulds, covers, and pistons are changed. In some features the machinery described and represented in the drawings appears not unlike the very ingenious printing-press invented by Mr. Ruthven. The patentee, without restricting himself to the exact arrangement as above, claims five things as novel and original, viz.—1. The general arrangement of the machinery. 2. The peculiar construction and arrangement of the moulds. 3. The application of the bent lever, in combination with the lids or covers of the moulds. 4. The peculiar construction and arrangement of compressing pistons, and the mode of working them. 5. The mode of removing the bricks or tiles from the moulds by a further movement of the pistons beyond that point required for compression.

Mr. William Hutton, builder, St. John's Wood, has received letters patent for an "improved machine for the manufacture of bricks." The complete specification declares this invention to consist of an adaptation to an ordinary pug-mill of a series of skeleton moulds, for moulding the clay into bricks, the said moulds being arranged about the lower part of the mill in a vertical direction, being also combined with certain pieces called "pads," employed for forming a vein in one side of each brick. The pug-mill is also furnished with knives for dividing the clay when the moulds are filled, thus forming the opposite side of the brick; the pads and knives being operated upon by lever handles. The mode of operation is by placing the clay in the pug-mill, and operating upon it with knives in the usual way by horse or other power. The effect of this is to force the clay into the several skeleton moulds. These resemble boxes without bottoms. One side of this box rests upon a projecting piece of metal, or rail, fixed wider than the bottom of the pug-mill,—which piece is connected with a vibratory bell-crank lever, to one end of which is attached the bit of wood called the "pad." During the filling of the moulds, the lever-handles to which the knives are connected are depressed, so as to hold the pads in forced contact with the moulds. When the clay has been sufficiently constrained, the workman raises the knife, thereby dividing the clay and forming the other side of the brick,—after which, by continuing to raise the lever-handle, the pad is disengaged from the mould, and the moulded clay is ready to be removed to the stack to be dried preparatory to burning. In this manner the operator proceeds to discharge the clay from the several moulds; each time replacing the filled mould by an empty one, and afterwards bringing down the knife to allow the empty mould to be filled. The patentee remarks, that the extent to which the clay is compressed in the mould will depend in a great measure upon the length of time the moulds are allowed to remain during the time the pug-mill is in action. The specification gives plans and sections of the various parts of the machine. The claim is for the novel mode of combining certain mechanism, so as to constitute a machine capable of manufacturing bricks more perfectly than heretofore, and more particularly making the bottom of the pug-mill with sloping channels and boxes, by which the clay is discharged from the pug-mill with considerably less power than if it were not so.

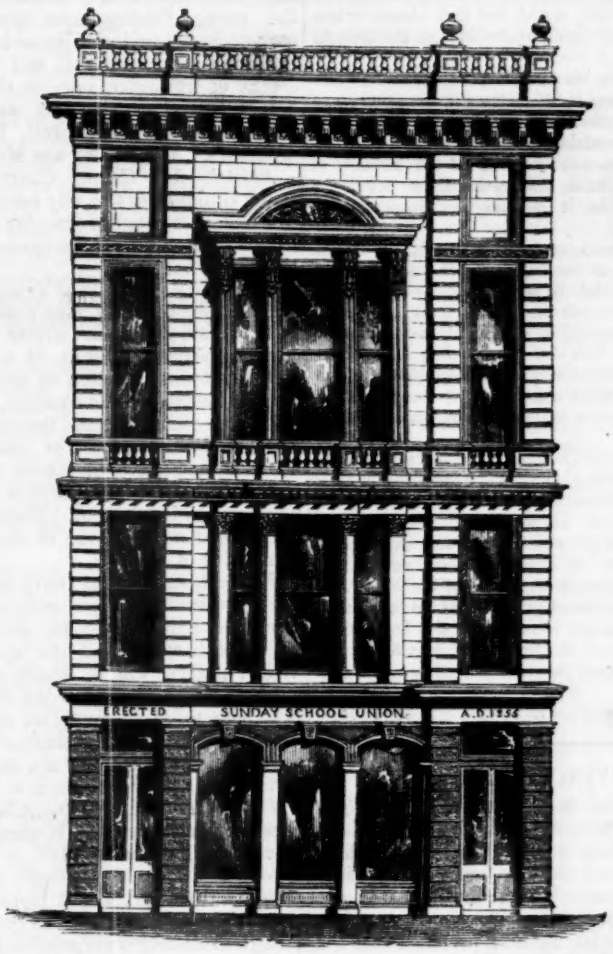
Mr. Zechariah Round, plasterer, of Dudley, Worcester, has received letters patent for "Improvements in bricks to be used in certain parts of buildings." These improvements are stated to relate to bricks to be used in the construction of doorways and other parts of buildings where an attachment for nails, screws, and other fastenings is required. For instance, the patentee observes they may be used in substitution for the blocks of wood usually built in or inserted into doorways and other parts of buildings for attachment thereto by means of nails or screws. Various pieces of wood or metal are let into the bricks after they are burned, being fixed by pins and in sundry ways set forth by the patentee in his specification and drawings. Some of the forms are intended for the production of a peculiar sort of brick, which, when built into the wall, so as to form parallel courses, serve as convenient attachments to lathwork. The claim is for the "introduction or attachment of pieces of wood or metal, or both, into or on bricks, for the purpose of affording a convenient means of attaching to the walls into which the said bricks are built such objects or matters as may require to be attached thereto," as described and illustrated in the drawing accompanying the specification. Further, the patentee defines the word 'brick' to mean "such masses of burnt clay, cement, composition, stone, or other materials as are or may be used in the construction of the walls of buildings."

Two other patents, which precede the above by a few months, we quote, in order to show all the ideas of any importance which have recently been suggested.

Mr. W. B. Johnson, engineer, Manchester, has patented improvements in machinery for making bricks from clay and other plastic materials. The invention, according to the specification, refers to a method of pressing clay, artificial fuel, or other plastic material, into bricks. This is effected by adapting two or more pistons to each of a travelling set of moulds, in conjunction with suitable apparatus for causing the pistons to advance gradually towards each other, so as to press the material on more than one side by a continuous action as the moulds travel onward. There are drawings given of the construction of machinery adopted, parts of which may be thus described. The side framing of the

machine is provided with flanges at top, to which is attached a table, carrying, by means of arched brackets, a central projecting part for a portion of its length. There are two sets of mould-boxes, each having an orifice at the bottom rather larger than the dimensions of the articles to be made. Within these orifices is situated the raised part of the table, which, therefore, constitutes a portion of the bottom of the moulds. They are each provided with the two pistons already mentioned. Upon the under sides are also toothed racks, in connection with other mechanism, by which the whole series may be caused to travel in one direction when power is applied,—this travelling motion being reversible according to the pulley which is thrown into gear. The mould-boxes are cast together in two sets, there being a division between them, and are capable, by means of wheel-work described in the drawings, of being brought alternately under a hopper, into which the clay or other material is placed. This hopper is provided with a shaft, upon which are placed spiral vanes, after the manner of an ordinary pug-mill, and to which rotary motion is communicated. Within the hopper are also mounted two rollers, adapted to the purpose of facilitating a supply of material to the mould-boxes. Beyond these rollers extend plates affixed to the hopper: these occupy a position over the moulds, and constitute their tops during the pressing of the material. At either end of the machine are standards, upon which are mounted levers, carrying, at their outward ends, by a series of joints, the "pistons." These are so placed as to occupy positions over the mould-boxes when they are run out to the extent of their traverse. When put in motion the machine acts thus: the moulds are caused to travel, and passing under the hopper are supplied with material by the revolution of the blades,—receiving a more perfect filling by travelling under the rollers. The pistons are then made to advance gradually towards each other, so as to compress the material from either side against the stationary plate and table. A further revolution causes various parts to operate so as to draw the pistons from each other, and thus liberate the moulded article from pressure. The travelling motion is continued until the moulds have been brought under a series of plungers, which are made to descend so as to force the moulded articles downwards, and fall on a travelling apron. During these operations the moulds at the other end of the machine are being made to travel under the hopper to receive their supply; and by appropriate mechanism for throwing in and out of gear, each set is alternately compressed and caused to travel back to be fed. As to the degree of compression to which the material may be subjected, the patentee remarks that it may be modified by forming small holes in the pistons, through which it may thus be allowed more or less to escape; and that it may not in escaping fill the space behind the pistons, other holes may be formed in the mould-boxes, through which it may be expelled. The patentee indicates that there may be much latitude or variation of detail in carrying out his invention, but he describes its spirit in the following claim:—"The adaptation of two or more moveable surfaces to a travelling set or sets of moulds, such surfaces being caused to advance towards each other from two or more sides of the moulds as they travel onward."

Mr. John Bird, manager of Chance's fire-clay and brick works, near Dudley, has secured a patent for improvement in kilns for burning bricks and other articles. This invention consists in constructing a kiln in the following manner:—A culvert or air-passage is built below the bottom, leading from the external air to the middle of the foundation of the kiln, where a central mass of masonry is built, with a space all round open to the air-culvert or passage; and the surrounding foundation is built up to receive and support the bottom or floor of the kiln. But in place of such floor or bottom being built solid on the foundation, numerous radial passages are made on which the floor is laid. Such passages at their inner ends open into the central space, with which the air-culvert communicates, their outer cuts opening into a hollow lining of the kiln. Consequently, says the patentee, when the kiln is in use there is a constant supply of air from the outer atmosphere into the central space, and through the passages below the bottom or floor into the hollow lining of the kiln, the air being in its passage highly heated and tending at the same time to keep the floor and the bricks or articles immediately above it from becoming too highly heated. The fire-places are made with inclined fire-bars, the lower one being horizontal, or nearly so. The fuel is supplied by hoppers above, thus keeping up a continual supply, whilst there is an opening kept above each of the fires to stoke them through. The ash-pit is better closed, and the fire is supplied with heated air from the hollow lining in the kiln, by openings above the fire-bars on either side of each fire-place.



JUBILEE BUILDING OF THE SUNDAY SCHOOL UNION.
TO BE ERECTED IN THE OLD-BAILEY, LONDON.

THE JUBILEE BUILDING OF THE SUNDAY-SCHOOL UNION.

THE Sunday-school Union are about to erect a building for their purposes on a plot of ground in the Old Bailey, London. A competition was instituted, and the annexed design, by Mr. Charles G. Searle (which we publish, mainly to show the operations of the Sunday-school Union), was selected. The building has a frontage of 38 feet in the Old Bailey, and a depth of 110 feet, with the advantage of a side entrance in Prujean-square. It is intended that the ground floor shall be occupied with a capacious shop, equal to the extended business of the Union, with large store-room adjoining. The secretaries' room will be placed near the centre, and adjoining the corridor entrance on the right. The committee-room, which will be in the rear, will be large enough to hold 100 persons, with entrances from the staircase, and from Prujean-square. The basement will be occupied as warehouse room, strong rooms, kitchen, porter's bedroom, warming apparatus, coals, &c.

The frontage on the first floor will be devoted to the library of the society, with librarian's office attached: there will also be separate reading-rooms on this floor.

The upper story will contain a lecture-hall, large enough to hold 400 persons, and high enough to erect a gallery at any future time to accommodate 100 more, with ante-room for the lecturers and speakers: there will also be two large class-rooms for the use of teachers, and the whole of this floor will be so arranged, as to be suitable for a *soirée*, when required.

In the centre of the building will be a large open area for windows communicating with each story, so as to secure light and ventilation.

It is proposed that the front shall be built of stone, if the funds subscribed are sufficient to enable the committee fully to carry out their wishes.

DOINGS IN THE OFFICE OF METROPOLITAN BUILDINGS.

THE registrar of Metropolitan Buildings presents his compliments to the editor of the *Builder*, and requests him to insert in his next number this note, in reference to the articles which appeared in the *Builder* of the 20th and 27th inst. relative to this office:—

The registrar acts under the authority and in obedience to the requirements of the statute by which his office is created; and also in accordance with the decisions and directions of the authority (that of the Commissioners of Works and Buildings) designated by the statute to regulate his proceedings, and confirm (or the reverse) his acts.

No opinion of counsel, however eminent, except an opinion of the law officers of the Crown, obtained by, or under the sanction of, his superior authority, would be a justification to him for acting contrary to his view of duty; and nothing short of the solemn decision of a competent court of justice, or statutory declaration of the Legislature, would be a complete justification for his so doing.

The opinions that have been obtained have been obtained without his concurrence or that of the commissioners, and upon cases stated without being previously submitted either to him or the commissioners.

The opinions of lawyers, however eminent, are only to be regarded as of value and authority according to the sort of case submitted.

As to one of the cases, the registrar knows that the case was not fully stated, and that considerations which ought to have been presented were not brought to view.

The registrar, in his peculiar position, cannot with propriety controvert these matters in the press; and has adverted to them now only because the articles which have appeared in the *Builder* are not only calculated to embarrass the conduct of the business of his office, but to raise, unintentionally no doubt, the impression that he is pursuing an unwarrantable course.

He looks to the express declaration in the statute of the purposes of his office,—to the nature of the institution of which it is a part,—to the various private and public interests which it is the express object of his responsible and highly-paid office to protect; and he feels that it is his duty to act without flinching in furtherance of these purposes, and in the direction of these objects, till a competent tribunal, or a competent authority, pronounces that he is in the wrong.

Many serious constitutional questions are involved in the matter, which are only to be disposed of by a dispassionate consideration of it *in relation to all the interests concerned*. It is a question to be determined, not by a single sentence of a very complicated Act of Parliament, or by a single and subordinate rule of interpretation, but by a view of the whole Act, in relation to the general principles of the law, and in relation to the express intention of the Legislature, and to the nature of the institution, specifically and appropriately framed in exact accordance with that intention.

Office of Metropolitan Buildings, Jan. 31, 1855.

PROVINCIAL NEWS.

Spalding.—The new plans for the Corn-Exchange have been received from Mr. Bellamy, the architect. They include a news-room, public-office, corridor and staircase, board and waiting-rooms, and exchange behind: the estimated cost is from 2,000*l.* to 2,500*l.*

Woolwich.—It having been proposed that the vestry should sanction the Burial Board's borrowing 5,000*l.* for the purchase of thirteen acres of land in Wickham-lane, at 150*l.* per acre, for a new burial-ground, the parish was polled, and a majority of 346 got in favour of the resolution.

Kidderminster.—The opening of that portion of the new public rooms in this town which is intended for a corn-exchange, took place on Thursday week, and was celebrated by a dinner attended by a large number of persons. The first stone of the edifice, which comprises the public-rooms and corn-exchange, was laid on the 7th November, 1853. The entire building will not be finished for another month or two, and it will be some time further before the organ is fixed in the large hall—an apartment destined for music, balls, lectures, and other social gatherings. The main building is so far advanced that the masons have been able to remove the scaffolding. The design of the architects has been carried out in brick and stone. The style is Italian. The front contains the smaller rooms, which are to be used as a library, &c.; and has a lower story in rusticated stone-work, and an upper in red brick, also stone Corinthian pilasters, cornice, &c. The front on the left recedes some yards to a square tower with campanile, and behind this stands the corn-exchange. The main entrance is in the centre of the projecting part, and goes to the music-hall behind: a second leads to the corn-exchange; and through the tower another leads to a hall and the gallery of the music-room, &c.: all three entrances are approached by fine flights of iron steps. The corn-exchange is placed with its end towards the tower. Its dimensions are 59 feet in length, 36 feet in breadth, and about 17 feet to the springing of the roof. The roof is open. The light is obtained from seven semi-circular-headed windows in the side-wall, and from a lantern-light 9 feet wide, which forms the ridge of the roof, and extends from one end to the other. The sides of the lantern are of perforated glass for ventilation, and the top is of rough plate to exclude the rays of the sun. Six wrought-iron girders cross the room and support the roof. The girders are filled up with cast-iron foliated ornaments. The roof boarding is stained and varnished, and the girders and their filling-up painted of a bright blue. An arcade constructed of pilasters and moulding with semicircular arches is carried round the room. Folding-doors open between the corn-exchange and the music-hall. The corn-exchange and music-hall will be warmed by means of hot-water pipes on Perkins's system. The design of the building was furnished by Messrs. Bidlake and Lovett, Wolverhampton, architects. The builder was Mr. Thompson.

Bristol.—The County Court Judge who sits in the Guildhall of this city seems to have had a sad time of it between draughts and suffocation, from a want of proper arrangements for ventilation in the hall.

Tewkesbury.—The local Board of Health and the local gas company have a misunderstanding as to the supply of the streets with gas. The company contracted for 6s. 3d. a thousand cubic feet, but it was forgotten to specify a time for the continuance of the contract, and the board refused to contract, under the circumstances, for more than one year. The company have announced their price in future to private consumers to be 7s. 6d. A resort to naphtha for the public lamps is talked of. Might not the board try the electric light, one at each cross corner or meeting of streets?

King's Lynn.—About thirty sets of plans for the new workhouse have been sent in, and the committee appointed for the purpose of examining them have reduced the number to three. Which of these will be finally adopted has not yet been determined. Several of those rejected have been set aside simply on account of their costliness, some being estimated at double the sum which the guardians are empowered to expend in the erection of the new building.

Devonport.—A new Baptist Chapel was opened here on Tuesday week. It stands on the east side of the Temperance Hall, at the entrance to Devonport from the suburb of Stoke. The architect was Mr. Alfred Norman, of Devonport. The style is Italian in general character, though exhibiting some peculiarities (more especially in the interior). There is, at the south end, a window of large dimensions, filled with carved stone tracery, Italian in its details, but combined with Gothic. This and the other windows are filled with stained glass. The building, which has only one frontage in Fore-street, is 50 feet wide, and rises to the height of 58 feet. The extreme length, including vestries and library at south end, is 120 feet; and the chapel, which is 38 feet high to the ceiling, is calculated to seat about 900 persons. There are galleries on three sides. The contract for the erection of the chapel was taken by Mr. Jenkins, builder, at the sum of 3,029*l.* which, with amount paid for site, makes the cost about 3,700*l.* of which 1,800*l.* had been raised prior to the opening services.

Penzance.—The London and Penzance Serpentine Company gave the workmen in their employ a treat on Monday before last, to commemorate the opening of their new works, situate on Newlyn-green. The new works, according to the *Cornwall Gazette*, consist of a centre—the ground-floor devoted to a steam-engine and its appliances, and the second story to show-room purposes—with a wing on either side, one occupied by "marble-masons" the other by "turners." The first are engaged in cutting the Serpentine, and occasionally marble and slate, into slabs, afterwards working up this rough material iuto chimney-pieces: the second attend more particularly to work requiring the lathe.

Rhyl.—At a meeting of the Improvement Commissioners, held on the 12th ult. it was resolved to convey to Mr. Myatt, of Congleton, the entire satisfaction of the commissioners with the manner in which he had carried out the drainage works of the town under some difficulties.

Liverpool.—At a recent Health Committee meeting, Mr. Newlands gave an explanation, the gist of which was that a complete system of sewering for the town was drawn up by him in 1847-8, and approved of by the Council; and that, since, nothing had been done in sewering the borough that was not according to that system. There were tenders before the committee for sewering nearly three miles of streets that had risen up within the last three months. They were taking these streets first, because the work could be so much more cheaply done than when houses and buildings were erected on the streets, and the owners of the property contributed 12s. a yard for each side of the sewer towards the expenses of making it. There was no neglect of old streets: there were only six streets unsewered in the borough.——A correspondent of the local *Times* complains that while passing along the river wall, at the Huskisson Dock, he was surprised to observe that no coping stones had been placed on the top, and that the salt-water, which there rolls on to the quay with a high tide and westerly breeze, was making considerable ravages with the small pieces of granite composing the walls, washing out the mortar, and materially weakening the structure. This, he thinks, would not have been the case if pressure had not been applied for "cheap" work. A wide crack, he adds, may also be observed between the dock wall and the foundation of the new battery.——The Earl of Sefton is laying out a considerable sum in improving the approaches to his mansion of Croxteth-hall. The new church, which stands on the north side of the drive, at West Derby village, and for which his lordship gave the land, progresses slowly: it is now being roofed in.

Sheffield.—The Ball-street new foot-bridge has been opened, and a new street is to be formed to run from the north end of the bridge into Neepsend-lane. The cost of the bridge has been 1,024*l.* The cost of the Neepsend bridge has been provided for, like that of the Ball-street, by subscription, each to the extent of about 1,000*l.* Another new street is to run from the end of Borough-bridge into Harvest-lane, and forward into Mowbray-street. This new street will run along the north side of the river, from the Borough-bridge to the new Neepsend-bridge.

Doncaster.—On Monday before last, a meeting of the Cemetery Commissioners was held at the Town-hall, to meet the architect, to open tenders for laying out the ground, &c. The tenders were from Messrs. E. Price, J. Micklethwaite and Son, R. Brooks and M. Hawksworth, John Law, W. Bradley and W. Boddy, with S. Appleby; J. Patterson, Birmingham; and W. Knight. The highest was 554*l.* 12s. 8d. and the lowest 235*l.* The tender of Messrs. Appleby, Bradley, and Boddy, for the levelling, laying out the walks and drives, and the draining and planting of the ground, according to the plans and specifications, at the sum of 267*l.* 2s. 8d. was accepted, the contract to be forthwith prepared and executed. It was resolved that Mr. Appleby's additional tender for planting (100*l.*) be substituted for his former one of 38*l.* 10s. With Messrs. T. and C. Anelay's contract for building the chapels and lodge, this will bring the cost under the original estimate of 1,500*l.* The chapels, &c. are to be completed by the 22nd of October; but the ground will be ready for interment in three months.

Newcastle-upon-Tyne.—The inauguration of the Ragged and Industrial Schools for this town took place on Wednesday week. These schools have been built from a design by Mr. Dobson, architect, and were erected by Messrs. Wilson and Gibson, contractors, at a cost of 2,400*l.* There are two large school-rooms, and two working-rooms for boys and girls, master's residence, and dormitories for a certain number of children. At present they contain sixty boys and seventy girls, out of which forty-five of each sex are fed daily in the institution, but all the remaining boys receive one meal per day.——All Saints' Church has been restored and re-opened.

Biographies.—The veteran author of the "Memoir of E. J. Willson," which appeared in a former number of this work—Mr. Britton—has written similar essays on the lives and writings of his pupil, W. H. Bartlett (whose numerous drawings have been so well and skilfully multiplied by several of our best landscape engravers), and of his old associate and friend, E. W. Brayley. The first appeared in the *Art-Journal*, and the second in our own paper and the *Gentleman's Magazine*. The author reprinted a small number of these memoirs as pamphlets for private distribution, and has inscribed each to his contemporary friends, S. Carter Hall, John B. Nichols, and the editor of this journal, in kindly terms expressive of his feelings.

AQUEDUCTS.

INSTITUTION OF CIVIL ENGINEERS.

AT the meeting on the 23rd ult. (Mr. James Simpson, president, in the chair), the discussion was renewed on Mr. Rennie's "Description of the Aqueduct of Roquefavour, and the Canal of Marseilles." It was pointed out that the ancients were not ignorant of the use of pipes for conducting water, as tubes both of lead and of earthenware had been found, in the oldest remains; but as they had not any knowledge of the use of cast-iron, they could only use pipes of small dimensions and subject only to moderate pressure. It might, however, be conceived, that the use of channels and lofty aqueducts, preserving nearly a regular and very gradual fall, had been adopted, because it was found necessary to afford an opportunity for the water depositing the impurities held in mechanical or chemical suspension: accordingly, on the sides and in the bottom of the water channel of the Pont-du-Guard, there was a deposit of nearly a foot in thickness of carbonate of lime, and beneath the soffit of some of the upper arches there were suspended several large stalactites, formed by the percolation of the water through cracks in the masonry. The same reason had probably, in some degree, induced the adoption of so expensive a construction as the aqueduct of Roquefavour, in preference to using metal pipes, lest the deposit should become so considerable as to eventually stop them up. This had actually occurred in the lead pipes, originally 5 inches in diameter, found in connection with the aqueduct of Alcantara, near Lisbon, and through which, although only about a century old, scarcely any aperture remained.

It should be remembered that the great works of the ancients were national undertakings, executed without regard to expense; whereas, public works were now generally the result of the enterprise of associated individuals, and however an engineer of the present day might be inclined to exercise his taste and skill, in designing and executing monumental structures, he was restricted by the modern inventions of "estimate of cost," and "dividend," which were generally received as the standard of his genius and skill.

It was shown, that public works required to be designed in accordance with the country or district in which they were situated; for instance, in Norway, where, although the line of railway traversed a difficult country, the estimated total cost was limited to about 10,000*l.* per mile, including stations, plant, &c. There were several tunnels, and some high viaducts, and it would have been impossible, within the stipulated limit of expense, to have constructed the latter of masonry; therefore, red pine timber, the indigenous and cheap produce of the country, was adopted and used without squaring, and with only just that amount of preparation and of labour which enabled the timbers to be framed together. The cost was about one shilling per square foot of superficial area of elevation, as compared with twenty-five shillings, the stated cost of the Roquefavour aqueduct. The timber was not presumed to last beyond fifteen years, and a fund would be taken by the Company from revenue, to enable a more permanent structure to be erected, or an embankment to be formed.

It was contended, that the cracks observed in the upper arches of the Roquefavour aqueduct resulted rather from insufficient weighting of the haunches than from expansion.

In corroboration of a view previously expressed, it was mentioned, on the authority of the "Architectural Dictionary," published by the Architectural Publication Society, article "Aqueduct," that "To cross the Manhattan Valley, an aqueduct bridge, 105 feet high, and 4,180 feet long, would have been required: this would have preserved 3 feet of head-pressure for the conduit water, but at an expense of about 240,000*l.* while the passage by four pipes of 36 inches each, was calculated to cost one-fifth of that amount: the latter was therefore adopted."

It was contended, that the design of the aqueduct of Roquefavour conveyed the impression of unnecessary timidity on the part of the architect, as it was merely a copy of the ancient structures: the three tiers of arches were not at all necessary for strength, nor did they conduce to the beauty of the building: in fact, it was probable the ancients only adopted that system because it facilitated the construction, by affording a secure footing for the scaffolding. The modern viaducts constructed for supporting railway trains, weighing 300 or 400 tons, travelling at the rate of forty to fifty miles an hour, were all upon tiers, with one tier of arches; and when the building of isolated furnace chimneys, as much as 350 feet in height, was no unfrequent occurrence, there could not be any difficulty in raising a series of such shafts, and connecting them at the top by arches.

The water conducted from the springs near Bellas to Lisbon, passed by the aqueduct of Alcantara, 2,600 feet long, over a valley, at such an elevation that the soffit of the centre arch, of 98 feet 4 inches span, was 229 feet above the ground level. That structure consisted of one tier of pointed arches of a kind of grey marble: it was completed some time before the year 1752.

It was contended, that for merely conducting a large quantity of water, the bridge aqueduct of Roquefavour was unnecessarily substantial and expensive, and the example of the Bristol Waterworks was quoted as a case in point. The water was there derived from the Mendip Hills, sixteen miles distant: an ample channel conducted it along the comparatively level country: the hills were traversed by tunnels, one of them being 1¼ mile in length, through magnesian conglomerate rock: several deep ravines were crossed by aqueducts, and in the undulating, or, it might be called, hilly part of the line, pipes were laid with culminating points, crowned by obelisks concealing air-pipes, by means of which the ventilation of the entire line was achieved. Three of the aqueducts were each composed of an oval tube, 4 feet 8 inches by 3 feet 6 inches of wrought-iron plates, ⅛ths inch to $\frac{7}{16}$ths inch in thickness, rivetted together; two of them being 834 feet, and the other 400 feet in length: there was also another of cast-iron pipes. Each wrought-iron tube was supported in the centre on an equilibrium pier, and so placed on balls as that, whilst longitudinal motion was not entirely prohibited, it was not encouraged, but lateral action was provided for. Each end, worked in a length of 10 feet of clay puddle, to allow for expansion and contraction; and on the top of all the piers, which were 50 feet apart from centre to centre, the tube rested in cradles containing balls, acting as rollers for aiding the motion. The loftiest pier was about 60 feet high above the ground level, and the gradient over the aqueducts was about 5 feet per mile. The cost of these aqueducts was 16*l.* 10s. per lineal yard, including all expenses, and they were capable of discharging five millions of gallons of water per diem.

THE CHAPTER-HOUSE AT SALISBURY.

YOUR valuable paper contains some excellent observations on the restoration of the royal tombs in Westminster Abbey, which certainly deserve to be more generally known.

The question of restoration, I think, was fairly discussed at the Institute of British Architects, and I am of opinion that no restoration ought to be proceeded with until some such rules as those suggested and laid before that meeting are decided on.

But of all that has been written and said on the royal tombs, I have not yet seen one word written or said in the defence of an exquisite work of art of the Early English period; I mean the Chapter-house of Salisbury Cathedral, which is to be "restored" immediately, as a memorial to the late bishop; and what is more to be dreaded than all is the "scraping off" the surface of the exquisitely carved foliage and the "restoration" of the figures in the relievos.

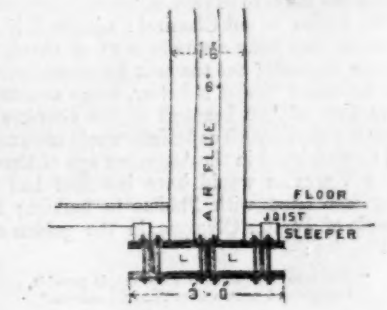
It is said that the workmen of the present day can imitate anything, as they are all copyists. As a specimen of this, look to the stained-glass window in this cathedral lately executed, containing a medallion copied from Raffaelle, of St. George, in armour of the sixteenth century, encircled by borders and patterns of the thirteenth century. Ask an artist of feeling to restore, he will tell you he would rather hand down any work, mutilated as it might be, to future students, than destroy their interest by any additions of his own. Canova, when asked to restore the Elgin marbles, replied—"It would be sacrilege in him or any man to presume to touch them with his chisel."

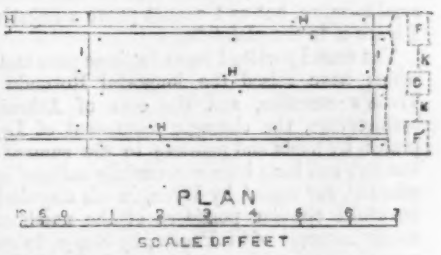
Restoration has done its fearful work of destruction already in this cathedral. Look in the choir: the original Early English oaken stalls have their "additions" in the shape of modern canopies constructed with deal, ornamented with castings in lead and plaster, daubed over with chocolate paint. Examine the restored Hungerford Chapel, which you are told is of iron; but you will find that if ever its ornamental parts were of iron, they are now of painted wood. Against the tower-piers, brackets, if once of stone, are now certainly of whitewashed deal.

SARISBURIENSIS.

SLATE FOOTING TO PREVENT DAMPNESS.

IT has often struck me, when passing by the shops in London and other cities, where the pavement is laid against the shop front, and almost excluding daylight, much more the pure air, that some plan might be adopted to prevent the damp and offensive smell. Annexed is a plan for a slate footing, whereby a bottom is obtained for the walls that greatly assists the foundation by its construction, and a current of fresh air, obtained from the highest part of the house, is kept constantly under the wall and floors, and the surplus water carried away.





The annexed diagram shows the slate top and bottom, 1¼ inch thick, and the partitions 1¼ inch thick, tongued into the top and bottom, secured with iron rods.

F. Ventilators in top of drain.

G. Opening under air-flue.

H. Joints of partition; in no case to be opposite, but broken, as shown, for strength of footing.

I. Joint in bottom.

K. Ditto in top.

L. Air-flue and water-drain: it is proposed to cut weep-holes at joints in partition, or perforate them, for the purpose of carrying away any water that may accumulate in foundation, to drain, with a proper trap, &c.; the holes to be cut about 1½ inch from bottom.

R. MARRABLE.

THE ARCHITECT OF ST. GEORGE'S HALL.

M. DE VOLTAIRE, says,* "*Colbert, le Mécène de tous les arts, forma un académie d'architecture en* 1671. *C'est peu d'avoir des Vitruves, il faut que les Augustes les employent.*" And in another place,† "*Il n'est pas aussi facile à un génie né avec le grand goût de l'architecture de faire valoir ces talens, qu'à tout autre artiste. Il ne peut élever de grands monumens que quand des princes les ordonnent. Plus qu'un bon architecte a eu des talens inutiles.*"

When the incipient Vitruvius contended with a score and a half of other young and able aspirants, and carried away the prizes in three, if not four, competitions for public buildings in Liverpool, he was unknown to, unconnected with any one there, and the designs under

* "Essais sur l'Histoire Générale," tom. VII. p. 23.

† Ibid. p. 308.

symbols; the names of the several competitors being unknown till the corresponding sealed letters of the victors were opened. Herein Vitruvius found an Augustus in the wealthy and liberal committee of management, which proposed and decided the rewards of merit; and I fear that many a good architect found that his talents were, as yet, useless, although I believe that many of them have since found liberal patrons. This, however, I do know, that in the whole trickish history of architectural competitions, few have surpassed those of Liverpool for purity and honesty.

It is said of St. George's Hall, that the style is not Classical, being a mixture of Greek and *Italian!* unfit for modern uses. The windows are modern and unsuited to the building. The attic is faulty and ought to be removed. The circular portico at the north entrance is faulty. The building wants vestibules and entrances.

The greater part of these assertions are given as opinions, without a case being stated whereon to found them; and men's opinions, or persuasions of the mind, without proof or certain knowledge, are free to be given at will, and may be as freely examined. A wise old builder, "Rare Ben Jonson," says of this persuasion of the mind, "Opinion is a light, vain, crude, and imperfect thing, settled in the imagination, but never arriving at the understanding, there to obtain the tincture of reason."

The design is not Classical: admitted, if by Classical they mean a servile copy of Greek or Roman originals; but the best European critics have admitted that it is better, being a tasteful adaptation of the beauties of the Greek and Roman styles,—such as Ictinus would have used had he flourished in the Augustan age of Rome, or as Vitruvius would have invented had he been associated with Phidias in building the Temple of Jupiter Olympus, in the golden age of Pericles:—*

> "Phidiaco si digno Jovi dare templa parabit,
> Has petat à nostro Pisa Tonante manus."

The "Italian" I cannot find in this unclassical mixture, but as I cannot prove a negative, I leave it to the plaintiffs.

The round portico I leave to those pure tastes which have raised the immortal Rotundo of Tivoli's cascades, and the gem of Athenian architecture, the choragic monument of Lysicrates, by poets and painters to the summit of beauty; and have been successfully imitated and adapted, *not copied*, by Wren, in his singularly-beautiful circular porticoes of the north and south transepts of St. Paul's; by Soane, to connect the north and west fronts of the Bank of England, and to conceal a frightful angle; which last has been commemorated by Wyon's fine medal, given by the architectural students of the Royal Academy of Arts to their tasteful professor; and in the present case as the entrance to the Civil Court of the architectural pride of the Royal Duchy of Lancaster.

I do not subscribe to the opinion that the outside of a building should not agree with its interior, and therefore cannot agree with the desire to remove the attic, which is part and parcel of the building, any more than to take away the upper story of St. Paul's, although it is a mere screen to conceal the Gothic construction of the nave and aisles, which the detestable Stuarts forced Wren to adopt in preference to his favourite design, preserved in his engraved works, and in the decaying model in the cathedral.

Of the want of entrance-halls, be it remembered that the north and south entrances supply them, and that the sides are corridors, when the building is used as the county tribunal of civil and criminal justice; and the two law courts, as principal entrance-halls, when used for musical or scientific assemblings. And every one admitted that when the doors of the Crown Court were thrown open on one of the grand concert nights, what a splendid vista and termination it formed, when viewed from the southern end, now blockaded and barricaded by the organ, which, magnificent and splendid as it is to be, has no right to intrude as Leviathan, hugest of *organic* things, and intercept the grand view from end to end, that its architect intended. The organ is a piece of furniture, and should have been placed on one of the sides; and has no more right to spoil the architecture of this noble, harmonious, and admirably-proportioned hall, than one of our most gracious Queen's grand pianofortes has to destroy the harmonic proportions of the finest saloon in the finest of her Majesty's royal palaces.

The late Mr. Thomas Hope, who wrote learnedly and tastefully on furniture and other architectural episodes and accessories, to the great wrath of the *Edinburgh Review*, would not suffer his organ-builder to damage his beautiful music-room in Duchess-street, and ordered his architect to design the case and place the instrument as an incident in the composition. So much for opinion, and I will now take leave to observe upon a few matters of fact.

Having thus far endeavoured to relieve the minds of the generous people of Liverpool from the fears that they have had imposed upon them by their trustworthy committee and council, which have now honourably delivered up their management, a building devoid of taste, originality, strength, and beauty, I request the favour of being permitted to reply to some misrepresentations of facts concerning the architect whom the magistrates and people of Liverpool have been pleased to honour.

On his lamented death, a gentleman, who could have known better, informed the public through the Liverpool newspapers, that he was the son of the *late* Mr. Elmes, which that person, as soon as he was told of it, repudiated, and added, that although he had been long buried, he was not yet dead.

In a long and laboriously-detailed history of the building, the competitions, the decisions, &c.* the author has appended a biographical sketch of the architect so wide of exact truth, that he can never expect such praise as the last number of the *Quarterly Review* bestows on Forster's "Life of Goldsmith," as a perfect model of biographical writing. On the contrary, Boileau d'Espreaux's reply to Louis XIV. when he showed the poet some of his own royal versification, would be more apposite. He said, "Nothing, sire, is impossible to your majesty; you wished to make bad verses, and you have succeeded." I do not say the biographer has wilfully perverted or invented facts, the truth or falsehood of which he could easily have ascertained; but if he had striven with all his might to write things that are not, he could scarcely have succeeded better.

He first informs us that his hero was born in London, whereas he was born at Oving, near Chichester, in Sussex, in the house wherein his father then resided, and which had been the residence of the celebrated landscape painter, "Smith, of Chichester." He was baptized by the Rev. T. Wooderoffe, M.A. his father's school-fellow at Merchant Tailors' School; and the dates of his birth and baptism, and his names and parentage, are recorded in the registry of that parish.

He admits that the young architect distinguished himself in *two* competitions, whereas the number of his works was so great at the time of his premature death, as to warrant the eulogium of Martial† upon a young conqueror in the athletic games of the Romans, and had won so many palms, that Death, when he enumerated the number of his victories, took him to be as old in years as he was abundant in honours.

The biographer goes on to state, that "he was the son of James Elmes, well known by his 'Memoir of Sir Christopher Wren,' and by his work on Dilapidations. *He* (?) was also associated with Haydon in a 'Dictionary of the Fine Arts.'" Who is meant or implied in this obscure sentence? If he means the son, he is wrong, for that dictionary was published in 1824, when he was a little boy of ten years old, and at school at Mortlake, in Surrey. If the father, he is equally wrong, for the twice-a-week meetings between Haydon and Elmes, at their respective houses, in Lisson-grove and Charlotte-street, Portland-place, had ceased by the termination of "Elmes's Quarterly Review," "The Annals of the Fine Arts," to which Haydon contributed many papers, to which he attached his name or initials; by Haydon's marriage; and by Elmes's removal to Hammersmith-terrace, where he wrote and published his Dictionary without any accord with Haydon, whom at that time he seldom met. These facts were known to the excellent printers of the work, Messrs. Whittingham, of Chiswick-mall, his neighbours. His only assistant in the work was, as acknowledged in the preface, his friend Mr. James Ollier, in the latter part of the work; the alphabet, and the greater part of the materials being finished by the author.

He admits that the son was in his father's office till he was twenty-one years of age, but says nothing of their subsequent partnership, when they designed and superintended the pile of buildings on the site of the far-famed Westminster Cock-pit, in Park-street, and the South Mall, St. James's Park, as the hundreds of drawings made and signed by them, and living witnesses in London, Liverpool, and our East-Indian and Australian colonies can testify.

I could continue my observations to a greater extent, but am willing, if Mr. Boult intends to publish his history of St. George's Hall, &c. to furnish him with any biographical facts of its architect that he may wish.

Two other statements, with which that gentleman has, I believe, nothing to do, I must observe upon. One is that he shared the design with Mr. John Stephens, who had an influential relation on the committee. This is pure invention,—that young gentleman was an articled pupil of mine; and whatever his qualifications as an attentive and industrious student may have been, taste in architecture had no place in him, as his fellow-pupils can prove. And for his relations, his father was a solicitor, with offices in Jermyn-street and residence at Twickenham, both accomplished disciples of Izak Walton, and his brother, a merchant in Ceylon.

As to the absurd pretensions of Mr. Bardwell being the parent of St. George's Hall, the fact is, that the first idea was formed by the young architect, when in his pupilage, and competing as a student in the Royal Academy of Arts, for a triune design, either for a royal palace, with the two Houses of Parliament, or for a building to contain the Royal Academy, the Royal Society, and the Society of Antiquaries, I forget which, but can find, if necessary. There was the germ of the united building at Liverpool, and I can produce living witnesses of the fact.

He was admitted to the freedom of one of the twelve chief companies of the City of London, by patrimony, when he put up for the office of City architect, and which he declined, when the corporation made it a *sine qua non*, that their architect should give up all private practice.

In his own address to the Lord Mayor, Aldermen and Common Council of the City of London, he says, "My earliest studies were directed by my father, and I trust it will not be considered that my time was unprofitably spent, when I state that it is more than twelve years (*i. e.* in 1831) since I was admitted a student in the Royal Academy, a position that indicates considerable previous knowledge of the art. From that period I have been constantly engaged in the practical pursuit of the profession, devoting all my leisure to the prosecution of its higher studies." There is his autobiography in a nutshell.

But whatever his biographer may think proper to say of me, one thing I shall be proud of to the day of my death. Like the aged warrior in Ossian, who boasted that his proudest glory was to be named as the father of the youthful conqueror, so do I subscribe myself,

The Father of Harvey Lonsdale Elmes.

We add to our previous illustrations a view of one compartment of St. George's Hall, showing the gates.

Hackney Baptist Chapel Competition.—A correspondent finds fault with the proceedings of the committee in this matter, especially that having selected the design of one architect, they have appointed another, who did not compete, to carry it out. On the face of it this seems unjust, but without knowing all the particulars, we might be *as* unjust, if we expressed an opinion. Architects go into these matters with their eyes open, and usually deserve the treatment they experience.

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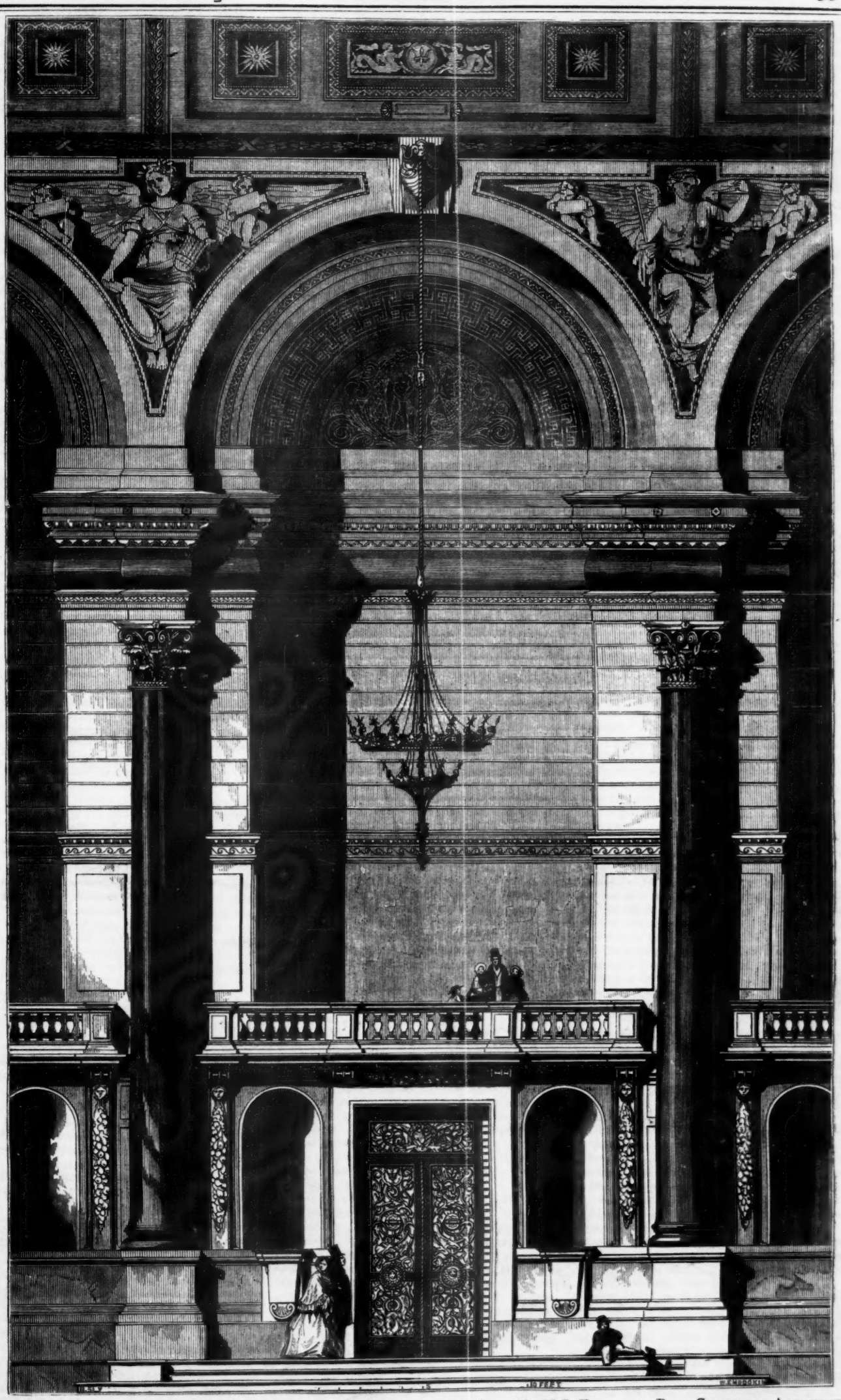
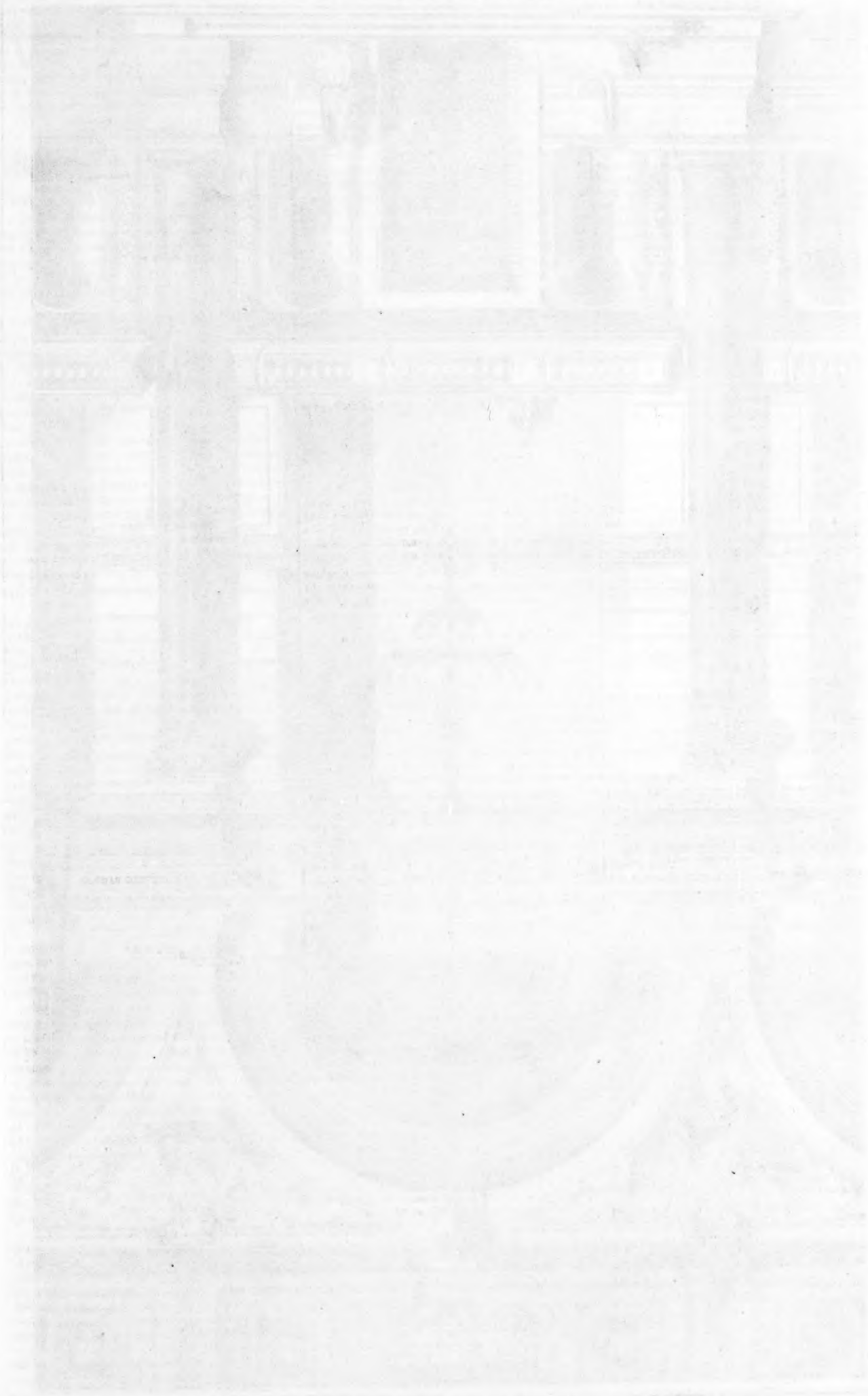
* Martial. Laus insignis Architectus.

* "St. George's Hall and its Architect," by Joseph Boult, esq. Architect, Liverpool. September, 1854.

† "Dum numeral Palinas, credidit esse senem."



A COMPARTMENT IN ST. GEORGE'S HALL, LIVERPOOL.—The Late Mr. H. L. Elmes, and Prof. Cockerell, Architects.



THE CASTLE AND THE CHURCH.

A DESCRIPTION.*

High on a rock a lordly mansion stood,
Towering with pride above the ocean flood,
That, distant far beneath, with sullen roar,
Dashed foaming o'er the jagged and barren shore.
Beyond, across the waves, an island rose,
Oft robed in mists, and wreathed in tardy snows,
That lingered long upon this northern world,
Where winter's sparkling flag so late is furled.
Reluctantly the frost-bound scene would change,
The mists clear off, and give a wider range
To vision: and the island reared on high,
Its form fantastic 'gainst the western sky.
No human dwelling smiled upon its face:
To water-fowl alone a resting-place
It granted; but it gave to man a name,
That oft was blazoned on the roll of Fame.
The rock-reared castle was the dwelling-place,—
The noble home,—of this more noble race;
And all that wealth and genius could impart,
To glad the eye and captivate the heart
With beauty, had been dealt with lavish hand,
To form an Eden from the rocky strand.

Long rows of stately trees reared their proud heads,
  Which centuries had aided to adorn;
And brilliant flow'rs in warmly-sheltered beds,
  Strewed varied pictures o'er the sloping lawn.

Around its edge a babbling streamlet gay,
  Added fresh beauty to the changing scene;
Now smiling in bright sunshine, then, in play,
  Hiding its eyes beneath a veil of green.

* * * * *

From out the trees which girt the castle round,
Not far removed upon a sloping ground,
A grey old weather-beaten tower rose,—
One of those massive structures which disclose
Long by-gone histories to the practised eye,
And seem the lapse of ages to defy.
Joined to the tower, but in less rigid style,
Was built the church, an ornamented pile,
Whose high-pitched roofs such varied lines combined,
Rich pinnacles and gables,—that inclined
The eager eye to wander on, and trace
The thousand beauties scattered o'er its face,—
The fond supporting buttresses which press
Against the walls with tender lovingness,
Casting deep shadows into each recess,
Heightening by contrast their own airiness,—
The slender shafts on which the arches rest—
So slight, yet with sufficient strength impreat—
Wearing with grace rich crowns of forest leaves,
Which mocking stone lightly around them weaves,—
The portal, with its clustered columns grouped
In closer masses, and its mouldings scooped
Into deep lines that darker shadows gave,
And framed—as 'twere a picture—the broad nave,
That spread within the opened doors, and showed
Rich wealth of beauty lavishly bestowed,—
The polished shafts, that gracefully upreared
The pointed arches, which in turn appeared
With ease aloft the fretted roof to raise,
Whose vaults oft echoed with glad hymns of praise,—
The deep-pierced windows, with their slender threads
Of stone-wrought mullions, and their traceried heads
Filled in with tinted glass, that but obscured
Earth's turmoil, while the light from heav'n poured
In streams of glory through each coloured pane,
And soothed away the soul from thoughts profane.
But above all the eastern window shone
In carved and painted beauty all its own;
An humble emblem of the All-seeing eye,
Which sheds its glowing radiance far and nigh,
Beaming on those whom prayer has brought more near,
But willing still to lighten and to cheer
Those heedless ones who wander on afar,
Where cold Indifference has placed her bar.

The wond'rous art of skilful men, had wrought
The yielding stone to forms with beauty fraught;
And lace-like pinnacles and fretted heights
Shone out like jewels in the coloured lights.
The carved and time-stained oak contrasted well
With the gay beams that o'er its surface fell,
And flowing outlines of the paler stone,
While each gained beauty from the varied tone.
High on the left a noble organ stood,
Forth from its deep-voiced soul to pour a flood
Of richest harmony, when cunning hands
Should loose its chill and silence-woven bands.
These oft were Ina's, for it pleased her well
To wake the slumb'ring melodies, which fell
At first so softly on the ear, but soon,
With trial of their strength, more 'venturous grown,
Would each sweet cadence lovingly prolong,
And rouse the echoing fabric into song.
Up to the roof the winged voices sprang,
Along the vaulted nave vibrating rang,
Till carried out upon the winds afar,
They hushed their murmurs 'neath the ev'ning star.

* From "The Lady Ina," an unpublished poem by a lady.

NOXIOUS TRADES AND CELLAR DWELLINGS IN THE METROPOLIS.

An attack has been made upon the district surveyors of the metropolis by the President of the Board of Health, in a letter to Lord Palmerston, under date of the 14th of November last, and printed, with some documents, upon which the allegations are said to be founded, in the Sessional Paper, No. 10, of the House of Commons. The district surveyors may fearlessly meet these allegations, though they certainly are made in stronger language than is usually adopted in public departments.

The refutation of the conclusion of the letter that the district surveyors had neglected their duties in respect of these important sanitary matters might be met by the assertion that many of the surveyors are known to have interested themselves philanthropically in the improvement of the position of the lower classes, and yet that these same surveyors have not availed themselves, in their exertions, of the power which the president supposes the Metropolitan Buildings Act to have placed in their hands. But, indeed, nothing is clearer to those who have studied the Act that they have no such powers given to them.

Now, first with reference to noxious trades and businesses. One case, and *one only*, has been adduced (p. 3 of the Return), to prove the *general* neglect of duty of the district surveyors in this particular. This case is a soap-factory, &c. in Old Gravel-lane. Dr. Glover, who inspected it, says that "The Building Act, 9th August, 1844, provides that after the passing of the Act, no such trade shall be commenced or carried on" (the Act says *newly* carried on, but the Doctor did not wish his only case spoilt). "On inquiry (he continues), I learnt that this factory commenced after the passing of the Act, and, therefore, comes under the provisions of the Act." Now, if the doctor will look to Robson's Directory for 1839 or 1845, he will find the soap-factory and tallow-melting business described under the name of the father of the present owners of the business. The Act, therefore, permits the continuance of the business till 1874. The inference drawn by the Secretary of the Board, from Dr. Glover's Report, is also quite unsupported by that document. The secretary says (p. 3), "Dr. Glover describes the good effect produced by threat of proceedings under the Act;" but the doctor's report, on the contrary, meekly says, "should legal proceedings fail," &c. It is these garblings which make it difficult to give a perfect reply. It is like a defence of one's self from a shower of mud.

Again, the district surveyors are charged with having, on their own admission, done nothing to "make known or enforce the restrictions" on these trades. Now, they were never asked the question, whether they had done anything to "*make known*" the restrictions, nor whether they *had enforced them where necessary*. Those who read the documents appended to the Parliamentary paper will see, by reading the registrar's circular to the district surveyors, the trap set for them by the Board of Health. It is a simple demand for a "*return of proceedings taken*," &c.; and in those numerous districts where no such businesses exist, no return could be made of proceedings taken against them; and in those where there are such businesses established at 1844, no proceedings *could* have been taken against them, but only against newly-established ones, which the returns show to have been taken. Also, it will appear that the district surveyors have "*made known*" the restrictions, but that was not one of the questions asked them.

As to the general policy which should be adopted with regard to these trades, it may be observed, that the sudden abolition of them would occasion great distress in those districts where the labouring population is engaged in them, and the depreciation of the property would be very great, to the ruin of many of the manufacturers; whereas the Act, by requiring the abolition in 1874, has already caused a movement in some of the most offensive of the trades, which will lead to their removal in a short time into the country. Perhaps, therefore, immediate mitigation will be better than immediate abolition.

With regard to Cellar Dwellings.—It may be remarked here, that not a single question has been asked of any district surveyor on this subject, but the language of condemnation has been applied in the strongest manner. Here, truly, a single case is not brought alone, but 1,132, in *part* of one parish, Marylebone. It was received from an anonymous and "*unofficial*, but trustworthy source." A subsequent return was obtained from the police, which, not justifying the former information, it was attempted to be brought up to it by taking in the *whole of Marylebone and Paddington*.

Now let the policeman who took them, be asked whether he is acquainted with what the Act requires in this behalf, and particularly whether every such cellar, first, was a separate lodging; second, was the specified depth underground; third, was under 7 feet high; fourth, was without the required area, windows, and fireplace. But it is unnecessary to argue further upon these unfairly insinuated and shifting foundations of the letter.

Whether the facts are as alleged or not, the Act is entirely misapprehended in respect of the functions and powers of the district surveyors. The registrar in his letter to the secretary of the Board of Health (p. 14), clearly points out their powers with respect to the *use* of buildings under sec. 18. Section 68, which is insisted upon by the secretary, shows clearly the general methods in which the surveyor is to perform his duties. Sections 13, 14, 17, 18, and schedule M, show him his manner of proceeding, to carry out those duties as to all structural questions; as do section 23, and following ones, in respect of the difficult questions of party walls; section 40 and following ones, with regard to ruinous buildings; section 43, with regard to dangerous projections and chimneys; other sections and the schedules giving the minute rules which he is to cause to be observed.

But power is not given, and was not intended to be given, to district surveyors to enter upon premises, to inquire whether a cellar dwelling is let as a lodging separately from the rest of the house, and he cannot possibly ascertain it. Counsel's opinion has been taken to ascertain in this respect his powers and duties, and why did not the Board of Health first take this course instead of laying a groundless accusation against a whole body of officers? The overseers are the parties charged with these duties at present, or it is in the power of a common informer to sue for penalties for breach of these provisions; but the district surveyor, even if he be aware of the fact of an illegal occupation of a cellar, actually *cannot frame an information* to his superior officers, the official referees, against it.

The district surveyors must await with patience the result of these unfounded imputations, but they may the more readily do so, as all must feel convinced that the Legislature will afford them a fair hearing before adopting measures corresponding in strength with the language of the letter. A SURVEYOR.

Out of doors there is but one opinion on the subject, and that is, that there is no ground whatever for the charge made against the district surveyors. In the last number of the *Justice of the Peace* (a well-known legal journal), there is a leading article on the subject, wherein that opinion is expressed strongly. The writer says in the course of it:—

"Charges so sweeping and condemnatory surely merited the most careful inquiry and consideration before they were committed to paper. We believe them to be not only unwarrantable according to the facts, but they are made under a total misapprehension of the legal powers of the official referees and surveyors.

It is certainly convenient, in order to fix a liability, to construe an Act of Parliament in such a manner as will meet the particular case; but happily, in England at least, such is not the method adopted by our courts of law. The 68th section, as quoted by the president of the Board of Health, certainly requires the surveyors 'to see that all the rules and directions of the Act are well and truly observed in and throughout' their respective districts; but the rules and directions referred to in this section have no more to do with the habitation of underground cellars in London, than they have to do with the underground dwellings occupied by the yet 'unhutted' British army before Sebastopol. 'For that purpose,' that is, for the purpose of seeing that all the rules, &c. are well and truly observed, the section proceeds to direct that the surveyors shall,—do what? proceed, not to enforce the provisions of the Act with respect to underground dwellings, but to do various acts which have relation *solely* to works of construction within their district!

Further, by the 53rd section it is made the duty of the district surveyors to give full effect to the directions of the official referees, with respect to serving notices upon the owners and occupiers of underground dwellings, of the existence and nature, and consequences of the enactment. The official referees again are to be put in motion by the receipt of notices from the overseers of the number and situation of the dwellings within their respective parishes, of which any underground room or cellar is occupied as a dwelling. And again, but first of all, the overseers, 'on or before the first day of January, 1845,' were required to make their reports to the official referees. In other words, the complicated machinery of the Act required the overseers to put the official referees in motion, who again were to put the surveyors in motion, not to prosecute the owners or occupiers, but to give them the official referees' notice of the requirements of the Act. Moreover, the Act dealt only with the state of things existing on the 1st January, 1845, for it is clear that

the overseers, after that date, could not, according to the terms of the Act, make reports to the official referees, upon which legal proceedings of a penal nature could be based.

So far, therefore, as the law is concerned, we consider that the district surveyors have been most unjustly censured by the Board of Health. Instead of its being a reflection upon them that 'they have manifested no apathy in the execution of those duties under the Act for which they are repaid by fees,' we consider that the unworthy imputation is the best testimony that could be borne of their zeal and efficiency in the discharge of their legitimate duties under the Act."

The *Justice of the Peace* is entitled to the thanks of the district surveyors, for thus independently taking up the subject.

ARCHITECTURE AND THE PUBLIC.

"One who acknowledges the *Builder* to be a Teacher," seems to think I have borne a little too hard on the public, and suggests I may possibly be of opinion "that professors and teachers are useless, and that all true genius issues from the people, without direction—without teaching." Had such been my sentiments, the articles would never have been written. And if the people "*will* learn," if they will cease to treat new schemes as visionary dreams, and to fondly cherish the olden as the sole feasible styles; if they will no longer shelter themselves under the excuse that architects have preserved a mysterious silence on present anomalies, and will agree with Cicero that "*usus uni rei deditus, et naturam et artem sæpe vincit*," then let them take that initiative which *power* gives, and indicate, as they have never yet done, their desire for "an indigenous style, which shall rise at once out of the peculiar circumstances of modern days." With Lord Bacon, we say, "It does not escape us how untrodden and solitary is the way of this experiment, and how hard it may be to win belief in its practicability;" but, with him, "we may also derive some reason for hope from the circumstance of several useful inventions being of such a nature, that scarcely any one could have formed a conception about them previously to their discovery, but would rather have ridiculed them as impossible." An appeal to architects for "disinterestedness," when one of their number complains that the public is not sufficiently interested in the art, is hardly the most appropriate mode of furthering the end proposed. Justly, indeed, may a profession, "whose very existence is dependant on the favour of its clients," hesitate and weigh well the consequences of attempting to originate another method. For we all know but too well the immediate fate of innovators, however brilliant their ultimate triumph. Bacon, Descartes, and Copernicus sneered at and ridiculed; Galileo, on bended knees, compelled to aver the globe was immoveable; Harvey, Newton, Locke, and Franklin, all misrepresented, are but a few of the splendid examples which may tend to deter the young architect, struggling for a living, from sacrificing his present interests for doubtful chances of future reputation and posthumous fame. E. L. T.

WAR APPLIANCES.

FOR the transport of cannon, as well as of other war necessaries, over mud,—suggested, doubtless, by the shocking want of foresight in respect to an available line of communication between Balaklava and the English camp above Sebastopol,—a want which has mainly contributed to reduce our noble army to the shame of a comparison with the starved and perishing Turks, rather than with the provident and thriving French,—it appears that the authorities at Woolwich have of late had under trial a vehicle constructed to meet this great defect in war appliances, independently of the more elaborate formation of roads or railways such as must surely be now in progress. A cannon on this plan is slung under a pole resting between two *high wheels, which, as they revolve, lay down a block or paddle, surmounted by an iron rail*, and dovetailing at its extremity with a succeeding block, continuing the line. Thus *the carriage lays down its own railway* as it progresses, while the sleeper from which it recedes acts as a lever, and lifts up the wheels from the bed of mud. It is said to be found that this carriage will transport the heaviest guns through a perfect slough. There are doubts, however, whether it will answer so well on rocky ground; as, during the late frost, the resistance of the hardened earth drew out some of the bolts from the wheels; but it is thought some modification of the paddles will overcome this impediment. The idea is nearly identical with a suggestion of our own some years since, for the improvement of locomotives on common roads; only, in that case, it was suggested that an elliptical or parabolical arrangement of revolving (jointed) rail might be worked concentric with each wheel, so as ever to lay down, as the whole progressed, a small portion of rail for the wheels to run upon, lifting it up as it passed over. The idea was by no means worked out into practical detail, but it was suggestive of such detail, and the present modification of the same idea seems to show its practicability, to a certain extent at least.——Apropos of cannon, a Mr. D. C. Mitchell, of Edinburgh, proposes to fire them without a touchhole, by means of electricity, through wires introduced into the cannon during its manufacture: such a gun, of course, could not, at all events, be "spiked," or have its touchhole choked up with nails, &c.——Workmen, we learn, are employed at St. Chanans in making several hundred pieces of cannon on the principle of the Minié rifle. These guns will carry 2¾ English miles.——In order to aid in redeeming Balaklava from the lamentable chaos into which it appears to have fallen, fifty dock labourers, it seems, have been selected from the London-docks, to be employed in unlading transports, arranging and warehousing stores, &c. They are to have 4s. a day, with rations; foreman, 7s. with rations, besides a bounty of 11*l.* each for outfit, and a free passage out and home. A Customs landing-waiter goes as superintendent.——The last of the 2,362 wooden houses for the Crimea, made by Mr. Essie, of Gloucester, for the French and English Governments, was despatched week before last. The whole have been completed within the time specified by contract, and were sent away latterly at the rate of 108 per day. The quantity of wood used seems to have been enormous: indeed, Lord Raglan complains that each house exceeds two tons in weight, and scarcely any of them seemed to have been yet forwarded from Balaklava to the camp by last accounts.——We have been asked (says *Herapath*) as the English are so fond of companies, if it would not be a good speculation to send to the Crimea to collect the balls and shells the allies [and the Russians too, it might have been added] have so uselessly fired away at Sebastopol. If brought home and recast, it might be a good speculation, and perhaps compel the refractory iron-masters to reduce their prices 3*l.* or 4*l.* a ton. If forged, we should like much to see it calculated how many miles of railway they would supply rails and chairs for. The Russian balls, we believe, could not be made use of by the allies on account of being too large for the cannon they have till recently used! Surely, however, the toil of transporting ammunition to the camp will now be lightened by using them up in the cannon of large calibre now being planted in the trenches.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the ordinary general meeting of the session, held on Monday, the 22nd ult. Mr. F. C. Penrose in the chair,—Professor Donaldson described some of the constructions now in course of erection between the Louvre and the Palais Royal at Paris. We shall give some details hereafter. Mr. Henry Baker was elected fellow, and Messrs. E. G. Bruton and E. W. Tarn, M.A. associates. At the next meeting, to be held on the 5th of February, Messrs. C. C. Nelson and M. D. Wyatt, will give some notice of an illustrated work, recently published at Berlin, entitled, "Early Christian Monuments of Constantinople, from the Fifth to the Twelfth Century," by W. Salzenberg. The programme for the new cathedral for Lille, to cost 120,000*l.* independently of fittings, may be seen at the Institute by members.

KENTISH RAG-STONE.

DURING a recent perambulation in the county of Surrey, I was pleased to find that Kentish Rag-stone may be procured from a locality, about twelve miles more westerly than any that had heretofore come under my notice; and as a new source of supply of a well-known building material may be advantageous to the profession, I am induced to offer these few remarks to your notice.

At about one mile and a half south of Godstone, the bottom beds of the lower green sand formation rise suddenly at an angle of nearly 45 degrees, presenting decisive evidence, either of a sinking towards the chalk, or of elevation in an opposite direction, to form the escarpment of Tilburstow-hill. This stone contains a superabundance of quartzose grains of sand, often angular, or slightly rounded, interspersed with very minute plates of mica, and scarcely any carbonate of lime. The strata vary in texture and composition, from the state of soft sand-rock to that of irregularly shaped nodular masses of great hardness, in most cases tinged with oxide of iron, of various shades, from whitish grey to a deep ferruginous brown. The transition is sometimes very sudden, from loose sand into compact stone of a dark grey colour, in which the original sandy structure is scarcely discernible: in other specimens the gradations are almost insensible. Between some of the beds, clay, having a smooth and saponaceous feel, is rather abundant: it is, in fact, a kind of "*fuller's earth*."

In their geological position, the rocks of Tilburstow-hill correspond with those from which the Kentish Rag-stone is procured in the neighbourhood of Maidstone, or through the central part of Kent, and in some of the minor features they are similar. The softest sand-rock of Tilburstow quarry may fairly be considered identical with the "Hassock" of the Kentish Rag district; and if the harder varieties were removed to London, or to a distance from the quarry, I doubt whether the most experienced mason, or learned mineralogist, could detect the difference between this mineral and its counterpart from the Rag-stone district of central Kent.

C. H. SMITH.

Miscellanea.

ARTISTICAL.—The third part of "The Royal Gallery of Art" (Colnaghi and Co.) contains Mr. Uwins's charming little picture, "Cupid and Psyche," engraved by Mr. Lumb Stocks; the "Battle of Meanee," by Armytage (who has scarcely fulfilled his early promise), engraved by J. B. Allen; and Ruysdael's "Windmill," characteristically rendered by T. A. Prior. The letterpress accompanying the first gives a few particulars of Mr. Uwins, who, we are sorry to hear elsewhere, is very ill. Mr. Uwins was first placed with an engraver, but soon left the *burin* for the palette. In 1811 he was member of the Society of Painters in Water-colours; was elected an associate of the Royal Academy in 1833, and a member in 1839.——Messrs. Gambart have recently issued a pair of very clever coloured engravings, after admirable little pictures by Huggins, of domestic fowls, which were exhibited in the Royal Academy last year.

CEMETERY FOR CRIEFF.—Lady Willoughby de Eresby has given to the town and parish of Crieff, in Perthshire, an acre of ground for a public cemetery. It lies on a slope towards the river Earn, and commands a most beautiful view of the surrounding Grampian Hills and the Vale of Strathearn. The cemetery is laid out with walks and shrubberies, from the designs of Mr. G. P. Kennedy, architect. The necessity for such a place of interment has been long felt by the town, the old churchyard lying, as usual, in the centre and thickly inhabited part, and completely filled up. The land is vested in the names of trustees, and their successors to be elected when necessary, and the management of the cemetery is left to a committee. The site is of a fine sandy gravel, and, after allowing for walks and plantations, it will admit of 1,000 layers or graves. It is inclosed on three sides by a wall in bricks, varying with the levels; the fourth side by mason-work and iron railings, with a central entrance. These works are to be paid for out of the produce of the sale of the layers or graves, by the persons claiming such right, at fixed rates, which vary from 2s. 6d. to 30s. each grave. No family is to be allowed to take more than six layers, and there are to be no fees on interment, except for grave-digging. We mention this considerate act on the part of Lady Willoughby more particularly with the hope that it may induce other proprietors in similar circumstances to do likewise.

MEANS OF COMMUNICATION IN RAILWAY CARRIAGES.—A working carpenter, William Glazier, has invented a little arrangement of gutta-percha tubing and valves, which might, we think, be made to aid in giving to passengers the means of communicating with the guard, the guard with the engine-man, and *vice versâ*. The necessity for the means of communication between the passenger and guard we have again and again insisted upon.

PUBLIC BATHS AND WASH-HOUSES.—The following return shows the number of bathers and washers, and the receipts at the establishments now open in London, for the year 1854:—

District and Name of the Establishment.	Number of Bathers	Number of Washers	Total Receipts. £.	s.	d.
Whitechapel, The Model	156,158	45,124	3,036	16	0
St. Martin-in-the-Fields	127,581	42,780	2,585	17	11
St. Marylebone	161,349	36,275	2,602	18	10
Westminster, St. Margaret and St. John	103,228	62,798	2,191	5	4
Greenwich	58,100	7,254	954	12	8
Westminster, St. James	111,471	41,116	2,147	8	11
Poplar, All Saints	53,186	10,078	1,027	2	6
St. Giles and Bloomsbury	185,964	42,796	3,587	12	1
Bermondsey (opened 19th June)	61,899	4,636	873	8	10
Lambeth (re-opened 2nd April)	124,250	...	1,957	17	6
St. Pancras, George-street	77,553	128,244	2,193	17	2
Totals for London during 12 months	1,220,739	421,101	23,157	17	9

MANUFACTURERS AND THEIR WORKMEN.—The following instance of providence and sobriety on the part of workmen, and of mutual good feeling between them and their masters, is extracted from the report of the commissioner on the mining districts. On the high piece of moor land which separates North Staffordshire from Cheshire, called Mow Cop, a population of nearly 1,800 has settled within the last ten years, attracted chiefly by the large collieries of Mr. Williamson in that neighbourhood. Within that period upwards of 400 houses have been built, nearly 300 of them by colliers, out of their savings. The houses are disposed irregularly over the hill, and each has attached to it from ¼ to ½ an acre of land. The building sites being limited in extent, and the population increasing, the price of land has risen to 2s. per square yard, or about 450*l.* per acre, some spots to nearly double that sum. The houses are substantially built of stone, the plots of ground well fenced and drained, and well cultivated, and the roads levelled and made by the men themselves. The earnings of these colliers are from 20s. to 30s. a week, and their sons 8s. Their provident and orderly habits are attributed in no slight degree to the comparative absence of beerhouses, Mr. Williamson refusing to employ any man who keeps one. The different habits of the men at their "Goldenhill" works, only a few miles off, are remarkable: at these works the men are employed in the ironstone mines, and are all under contractors, who keep beerhouses. Mr. Williamson stated, that "the wages spent by the men at the Goldenhill works in beer, are here spent in building. First one house is built out of savings, then another. Some men have built as many as four: they put by the rent, and add to it what they save from their wages. Some of them keep a cow, as their land is brought into cultivation."

THE PLANS FOR THE SHEFFIELD SCHOOL OF ART.—The council of the Sheffield School of Art have at length gone through the labour of examining 116 plans sent in by 105 architects, for the school, about to be erected in Arundel-street. The labour of examination and analysis was confided to a subcommittee, consisting of Dr. Branson, the Mayor of Sheffield; and Messrs. E. Bury, J. J. Smith, and E. S. Howard. These gentlemen report that they spent much time in a careful analysis of the plans. They admit that several of the rejected *elevations* are equal in merit to the two they recommend. After repeated and long-continued sittings, they reserved twelve designs for more special consideration; and after the closest investigation of their merits, they unanimously resolved to recommend the two designs marked respectively "Cavendo tutus" and "Speranza," as occupying, in their opinion, the first and second place. The plan marked "Cavendo tutus," with slight and inexpensive modifications, appears, they say, to fulfil all the conditions required, being at once simple and convenient in its interior arrangements, and displaying an elevation effective in its character, depending for its ornament on a judicious distribution of colour, arising from the employment of moulded and coloured bricks and tiles, rather than on the more costly workmanship of the stonemason. A difference of opinion, they remark, may exist as to whether one large single gallery for casts will be more effective in appearance than a longer and narrower gallery divided into compartments, as in the design marked "Speranza," but they have no doubt as to the greater convenience of the former for the purposes of the school. The committee, in conclusion, state that the plan marked "Speranza," which they recommend for the premium of 50*l.* is entitled to the highest praise for the excellency of its general arrangements and unexceptionable mode of lighting. The report of the subcommittee having been, on full examination, unanimously approved and adopted by the council, the letters of "Cavendo tutus" and "Speranza" were opened. The first was found to be that of Messrs. Manning and New, of London; and the latter, that of Messrs. Weightman, Hadfield, and Goldie, of Sheffield. Arrangements have been made to give the public an opportunity of inspecting all the plans.

REPAIR OF CRACKED CHURCH BELLS.—Mr. Ray, jun. a watchmaker, at Sainte-Austreberthe (Seine Inférieure), has discovered, it is said, a simple means of repairing the bells of churches, when cracked, without the tedious process of recasting them, hitherto considered indispensable.

PROPOSED NEW CATHEDRAL FOR THE ISLE OF MAN.—The *Manx Sun* states that the present diocesan (Dr. Powis) is busily interesting himself in the procuring of adequate funds for the erection of a suitable memorial, in honour of Bishop Wilson, who died in 1755; and that it is proposed to erect a cathedral, —the old Cathedral of St. Germans being a ruin beyond the possibility of repair. A committee is about to be formed, over which Mr. Wilson Patten, M.P. will preside as chairman. Several handsome sums in furtherance of these views, it is said, have been already offered.

NORTH OXFORD ARCHÆOLOGICAL ASSOCIATION.—The quarterly meeting of this Association was held on Saturday before last, at the Vicarage, Banbury, when various interesting objects were exhibited, including some ancient family papers belonging to Colonel North: and a paper on Foreign Cathedrals was read by the Rev. Mr. Miller, who said he simply meant to relate the impression which the first sight of those splendid monuments of former ages made upon himself, and endeavour in part to account for it. In the autumn of 1853, and the summer of last year, he visited a good many of the cathedrals of Belgium, and some in Germany, France, and Switzerland. Among them were some of the very first specimens which existed, for instance, Cologne, Antwerp, and Notre Dame, at Paris. Of course the exterior was the first thing one saw, and the first impression was produced by sight of it. He thought the first impression of foreign cathedrals was more grand than that produced by our own. That fact might be attributed in part to their great elevation. Their proportions, too, were perhaps fairer, and from atmospheric causes probably the stone was in better condition than in our own country. Altogether the first sight of these huge buildings was very fine. Nor was that effect altogether spoiled by the unfinished state in which almost all remain. He did not remember in all the Belgian cities having seen one cathedral in a thoroughly finished state. St. Gudule's, at Brussels, was the most perfect, but even there many details were wanting.

THE FUTURE OF BRITISH FARMING AS A BRANCH OF MANUFACTURE.—While noticing Lord Willoughby de Eresby's laudable efforts to mature the steam plough as an instrument in the evolution of industrial agriculture, we some years since suggested the probability of just such a vast extension of farming, as a branch of manufacturing industry, as steam power and machinery have already evolved in other branches of manufacture. Since that time there have been many indications that the idea has taken root in the public mind, not only of this but of other countries; and we now occasionally observe comparisons made between the possible future of British farming and the actual past of British manufacturing industry. Thus a M. de Lavergne has recently started a speculation on the possible "future" of English farming, in which he remarks that all these works of drainage, construction of buildings for stabulation, erection of steam-engines, &c. in aid of farming operations, of which we now hear, will cause the capital put into the land to produce at least one-third more of alimentary substances. The gross average production, which was equal before to 3*l.* per acre, will then, he calculates, be 4*l.* 10s.; while the average rent will probably rise to 30s. and the farmer's profit to 18s. per acre. The only question, he adds, is this—are proprietors and farmers in a condition to furnish the required capital? The question is one involving no less an amount than four or five hundred millions sterling. For any other country than the United Kingdom such an undertaking would be impossible: for her even, it is an arduous one, but only arduous. The nation which in the course of a quarter of a century has spent 240,000,000*l.* upon railways alone, may well employ twice that amount in renewing its agriculture.

NEW CHURCH AT ISLINGTON.—A meeting was lately held in the National Schools, Church-street, Islington, to concert measures for the erection of a new church in Arlington-square. Several liberal subscriptions were announced, and it was determined that the new church, which is to be dedicated to St. Philip, should be proceeded with as soon as possible.

GALWAY.—The Convent of Mercy, at Clifden, Galway (as formerly noticed in the *Builder*), is nearly finished, with exception of the schools, cells, and enclosure walls. Mr. J. S. Butler is (we believe) the architect. Similar buildings at Ballinasloe are in a very forward state, but we are told the funds for completion of each are deficient, and the progress delayed accordingly.

MEMORIAL OF SIR ROBERT PEEL.—A handsome monumental tablet has recently been erected by the sons of the late Sir Robert Peel, in the parish church of Drayton. It is of statuary marble and Roche Abbey stone, elaborately carved in the Tudor style, by Mr. White, of the Vauxhall-bridge-road, from the designs of Mr. Sydney Smirke, A.R.A. The following is the inscription:—

IN MEMORY OF
THE RIGHT HON. SIR ROBERT PEEL, BART.
TO WHOM THE PEOPLE
HAVE RAISED MONUMENTS
IN MANY PLACES.
HIS CHILDREN
ERECT THIS IN THE PLACE
WHERE HIS BODY
HAS BEEN BURIED.

HE WAS BORN, FEBRUARY, 1788,
AND DIED 2ND JULY, 1850.

THE THEATRE ROYAL AT BRUSSELS, recently destroyed by fire, was built in 1817 to 1819, under the direction of a French architect, M. Damesme, and cost, according to "*L'Europe Artiste*," 64,000*l.* Since then it has undergone three entire restorations, at a cost of at least 48,000*l.* in the whole. The new decorations during that period are set down at 4,400*l.* and the bas-relief of the portico cost 3,600*l.* making a total of 120,000*l.* Its re-edification is estimated by the same journal at 40,000*l.* It is to be hoped that our London managers are not lulled by apparent security into forgetfulness of the dangers which every night menace a theatre.

THE COMPETITION FOR ASSIZE COURTS, &c. TAUNTON.—We have received several communications on this subject, some of them commenting on the manner in which the county surveyor has been treated, and complaining of a member of the profession, who has permitted one of the magistrates to thrust him forward with a revision of the county surveyor's plan. The matter has since been thrown open to competition, and we shall be curious to see the result. If architects do not behave honourably towards each other, they can scarcely expect much consideration from the public.

PROGRESS AT BOSTON, U.S.—One of the most recent tokens of progress at Boston is the intimation that burials within the city are not to be continued after April of the present year, without special permission under peculiar circumstances, and then only temporarily.——The works of the enlargement of the State-house are now approaching completion. The library may not be finished until the 1st of June; but otherwise, the whole is so nearly completed, that all the apartments except the library are probably occupied by this time (end of January). The building, according to the *Evening Gazette*, "forms as tasteful and appropriate a public structure as can be found in the country. Its bold projections and fine masses of shadow will be yet much improved when they receive their final colours; but even standing as they do at present, they satisfy alike the eye and the judgment by their well balanced solidity." The valuable library, and records of the commonwealth, which have heretofore been exposed to so much danger, are henceforth, it is believed, assured of the most complete and perfect safety. The library-room, the most striking and important feature of the new building, is constructed wholly of fireproof materials in every part. The floors, staircases, bookcases, ceiling, and gutters throughout the whole structure are entirely composed of iron, and even the sashes, shutters, and frames are to be of the same material. The *Gazette*, in allusion to the cost of the whole of these works, notes that the cost of apparatus for merely ventilating our House of Commons, is four times the amount of the whole expenditure on the proper construction of the entire State-house addition. It extols the "noble patronage of art" displayed in the former instance. It would have been well, however, had the "apparatus" referred to been worthy of the expenditure and the patronage, instead of being most of it superseded as worse than useless.

MODEL LODGING-HOUSE ASSOCIATION AT BRISTOL.—A meeting, convened by circular, of gentlemen desirous of seeing improved dwellings for the industrious classes introduced into Bristol, was held in the Council-house, on Monday before last. The chair was taken by the Mayor, who was supported by the Bishop of Gloucester and Bristol, Mr. Commissioner Hill, and other gentlemen. There was a tolerably numerous attendance. The Chairman said he regretted very much that he had been unsuccessful in inducing the town council to take up this matter as a municipal duty, and to deal with it in an extended, comprehensive, and liberal manner for the benefit of the citizens at large.—The Bishop said this meeting gave him the cheering assurance that what he had been so long striving for would be accomplished, or that at least a good commencement would be made, which they all knew was half the battle. As they were to be united, he understood, with the Metropolitan Association for Improving the Dwellings of the Industrial Classes, he thought they had better take their name. They would thus obtain all the advantages resulting from their charter, the first of which would be restricted liability. It had been first intended that they should begin with a capital of 5,000*l.* It was now, however, recommended as expedient that they should increase it to 10,000*l.* which would entail upon them no difficulty or dilemma, as by the charter they could not contract debts for more money than had been received by shares. There was no desire to infringe upon the liberty of the industrial classes: on the contrary, it was a leading part of their system to encourage self-respect on their part. This was not to be considered as a charitable institution. They were to assist their fellow-citizens in making themselves independent. Appropriate resolutions were then passed, and the new association thus fairly set agoing.

Important to the Timber Trade.—The case of M'Knight v. Clarke, which lately occurred at Liverpool, was an action brought in the Court of Exchequer, before Baron Platt, to recover the value of a quantity of mahogany purchased, as was alleged, by or on account of Mr. F. Clarke, of Jersey. The plaintiff is a Liverpool timber merchant. In March, last year, his firm received an order, through an agent of defendant's, named Melhuish, who afterwards informed plaintiff that defendant required a certain quantity of mahogany, and that his clerk had pointed out a lot lying on one of the quays for sale by a broker as the timber most likely to suit his principal, adding that he had seen a specification of the mahogany, setting out the different lengths, and that the price was 7d. per foot. The plaintiff eventually purchased the mahogany for 15*l.* per load, or 6d. per superficial foot. In consequence of there being only short room in the ship containing the previous order, short logs were selected and shipped. Defendant afterwards found fault with the length, and repudiated the whole transaction. Plaintiff said that he bought the mahogany by caliper measure, at 6d. per foot, which was equal to 9¼d. or 9⅔d. per foot by Liverpool measure. It was ultimately agreed that a verdict should be entered for plaintiff, and that the matter should be referred to some gentleman at the bar to say what sum ought to be paid.

The Builders' Ball.—The ball for behoof of the funds of the Builders' Benevolent Institution, let us once more remind our readers, comes off on 8th inst. (Thursday first), at Willis's-rooms, St. James's. The list of stewards is a good one, but there cannot be too many of the same kind, and it is very desirable that a decided effort be made at once to realise the almshouses, of which the Institution stands now much in need. There are now on the pension list, sixteen men receiving 24*l.* a year each, and eleven women receiving 20*l.* each; and all that is requisite to enable this builders' charity to rank fully with many others, which it ought to have preceded, is the possession of a series of comfortable almshouses in some select suburban neighbourhood; and that, we trust, the trade will now very speedily provide, as it ought to have done long ago.

Chester Architectural, Archæological, and Historic Society.—On 19th ult. two lectures were delivered before the members of this society by the Rev. J. G. Cumming, M.A. formerly Vice-Principal of King William's College, in the Isle of Man, but now Head Master of the Lichfield Grammar School, on "The History of the Northmen of the Isles," and "The Runic Monumental Remains in the Isle of Man." The lectures were profusely illustrated by drawings, casts, and rubbings, from remarkable examples of antiquity. The Rev. Canon Blomfield expressed to Mr. Cumming the thanks of the society for his addresses.

The Stanley Memorial Window.—I should have contented myself with asking your permission to state that the paper on the Stanley window, to which your correspondent (p. 47) refers, appeared *verbatim* in the December number of the *Gentleman's Magazine*, but there are circumstances attending the publication of this writer's statement which compel me to ask for space for a few remarks. The self-same observations, with a *tasteful* introduction—an unfair endeavour to deceive the public by assuming the editorial *we*—appeared in our county papers the week before Christmas. I will not occupy your space by going over each of his statements: your readers will find how he has exercised his ingenuity, if they will compare his letter with my paper. I will content myself with one instance. He cannot "accede to the notion that no Scriptural allusion is tolerable which is not directly taken from some Mediæval precedent." Your readers will conclude that I had evolved the "notion." Not a bit of it! From beginning to end of my paper no such "notion" is to be found. I objected to Holy Writ being "ransacked for parallels," not because there was no Mediæval precedent for it, but expressly on the ground of its being (as I thought) a violation of *good taste and Christian feeling*. One word more, and I have done. He states that all *tangible* objections made by me to the artistic part of the work were anticipated and overruled by the committee!! How was the public to know this, or how was I to know it? Your correspondent *now* asserts it; but how comes he to know it? and how is the public to judge of the value of his opinion? Supposing, however, we had it, on the *best* authority, that the committee had decided on all *tangible* objections to the best of their power,—am I, or any one else, to be stopped from questioning their judgment, or from disapproving the result of their labours? As I have before stated, I may be wrong in my opinions, and would be glad, if I have fallen into error, to be put right; but I am not to be "put down" by misstatements and uncourteous remarks, however pertinaciously your correspondent may insist on obtruding them upon the public.—Henry Harrod, F.S.A.

The New Bill for the Removal of Nuisances and Prevention of Diseases.—The new Bill "to Consolidate and Amend the Nuisances Removal and Diseases Prevention Acts of 1848 and 1849," has been printed. It is endorsed with the names of Sir B. Hall, Bart. Lord Palmerston, and Sir W. Molesworth, Bart. The number of its clauses amounts to sixty-two. The first clause repeals the Acts 11th and 12th Vict. c. 123, and the 12th and 13th Vict. c. 111, saving proceedings in progress. The execution of the Act is to be intrusted to the local authorities, and the nuisances "abateable" include all filthy, unwholesome, or dilapidated houses, buildings, or premises (which the local authorities may declare untenantable, and shut up accordingly), all foul or offensive pools, gutters, ditches, cesspools, drains, ashpits, &c.; all animals "so kept as to be injurious to health," and all decaying or offensive accumulations or deposits. An inspector of nuisances, with a salary, is to be appointed by the local authorities. Clauses 14 to 20 provide for the removal of nuisances in the regular legal course—the penalties for contravention of orders to abate nuisances being 10s. per diem, and 20s. for "infringement" of such orders: local authorities to have power themselves to abate nuisances and recover cost. Clauses 21 to 33 provide for the cleansing of ditches by the surveyors of highways, the covering of open ditches, the prevention of the sale of tainted meat, poultry, and fish, under penalty of 10*l.* for each offence; and the abatement of nuisances from offensive trades or processes—such as candle-houses, melting-houses, slaughter-houses, and bone-houses, under a penalty of 5*l.* per diem. Clause 35 empowers the the General Board of Health to carry out orders of Privy Council for prevention of disease, by issuing regulations for the speedy burial of the dead, for house-to-house visitations, and for the dispensing of medicines, and the supply of medical aids to persons afflicted by or threatened with zymotic diseases. These provisions with respect to the prevention and mitigation of diseases will extend to Ireland. While such orders in Council are in force in any place, the local authorities will have the power of bringing overcrowded, and consequently unhealthy, houses under the provisions of the "Common Lodging-house Act" of 1851. Penalties may be levied on local authorities neglecting their duties under this Act. The expenses of the execution of this Act are to be defrayed out of borough rates, general district rates, "Local Improvement Act" rates, highway rates, or failing these, out of the poor rates. The constabulary and police force in their respective jurisdictions are required to aid in executing this Act. Clause 61 obviates the construction of anything in this Act, so as to impair any power of abating nuisances at common law.

The Leicestershire Architectural and Archæological Society.—A new society under this name has been formed in consequence of the meeting of the Lincolnshire and Northamptonshire Architectural and Archæological Societies at Leicester. The patrons are the Duke of Rutland and the Bishop of the Diocese; and the presidents are Lord Howe, Sir F. Fowke, and Mr. P. Herrick.

Increased Facilities at London-bridge.—A correspondent, Mr. M. T. O'Keeffe, C.E. suggests the formation of a superway for foot passengers across London-bridge, based on two rows of columns, 15 feet high and 30 feet apart, and so distributed as to divide the slow from the quick traffic below, while also supporting the transverse and longitudinal girders on which the superway would be laid, and which could be ascended to by some thirty easy steps. The railway foot traffic, he further suggests, might be provided with a continued superway leading into or out of the railway terminus. The same suggestion might apply to Waterloo-bridge. So far from being unsightly, our correspondent remarks that it might be made, in the opinion of many, ornamental (as a Rialto), rather than otherwise.

Reseating of Trinity Church, Coventry.—Your notice of this is incomplete without the following, which we beg to hand you for publication:—Tenders for removing old galleries and pews in Trinity Church, Coventry, and reseating same in wainscot oak. Old materials to be the property of the contractor:—

Highams, Wolverhampton	£4,095	0	0!!
Rattee, Cambridge	2,850	0	0
Young and Co. Oxford	2,800	0	0
Broadbent, Leicester	2,485	0	0
Kingham, Ipswich	2,327	0	0
Pratt, Coventry	2,250	0	0
Taylor, ditto	2,247	0	0
Marriott, ditto	2,230	0	0
Robinson and Son, ditto	2,196	10	6½
Hall, Nottingham	1,950	0	0
Ruddle, Peterborough	1,767	0	0!!

R.

Timber Sale at Abberley.—A Worcester paper reports a large sale of timber here on Wednesday week. The attendance was very large, consisting chiefly of small dealers, and the prices obtained far exceeded the valuation on nearly all the lots. Oak sold at from 2s. to 8s. 6d. a foot, and ash and elm from 1s. to 1s. 6d. There is generally a complaint that timber is not worth so much this season as last by from 10 to 20 per cent. and the large dealers are shy in making purchases, but all small lots have been readily sold at great prices to small purchasers, who are generally men new to the trade.

St. Stephen's at Vienna.—The *Athenæum* says,—The spire of St. Stephen's Cathedral, at Vienna, has just been repaired, at a cost of about 50,000 florins. More important restorations are spoken of, and the lively Viennese seem at last, in spite of their French bias, awaking to an appreciation of Gothic architecture.

Application of Liquid Manure to Subsoils and Roots.—Our readers may remember some details which appeared in our columns as to a new plan of applying liquid manure, adopted on some waste land at Wokingham, by way of experiment, by Mr. Wilkins. The result of a year's trial of this method has now been published. The liquid manure was applied through semi-cylindrical tiles laid convex side up on a water-tight floor of brick, edged round with bricks 4½ inches high, and covered with soil to a depth of 18 inches, in which the crops were planted in lines running coincidently with the tiles. The same sorts of seeds were planted in duplicate on the same sort of soil, but without either the tile or brick apparatus. To the former, liquid manure was applied about twice a week; to the latter, none was given. The results were quite extraordinary, especially with mangold-wurzel and carrots. The mangold-wurzel was produced, with manure, at the rate of about sixty-nine tons per acre, the average weight of the roots being twelve pounds each, whereas on the unprepared piece it was four pounds, and on a piece of ground prepared with a top dressing of liquid manure, six pounds. Italian rye-grass was cut five times on the prepared bed to one cut on the other; the fifth of the former being exceedingly tender and juicy, while the one of the latter was tough and dry. Potatoes were doubled in weight by the manure. Hemp and flax grew luxuriantly by its aid. In three months the hemp was six feet long, and a second crop was then planted, which grew to the same length. Mr. Wilkins says that even three crops, and for cattle, seven crops, annually, of the necessaries of life, might thus be produced. The cost of construction, however, is considerable. With bricks for floors he estimates it at 100*l.* an acre, but with gas tar, and sand, at 50*l.* There are other difficulties in the way of the application of this method on the large scale, but we think we can see how, by aid of steam power and a circulating system of valved and perforated manure pipes, such difficulties might be overcome, so far as inequalities of ground are concerned: whether to great profit remains as a further question. Mr. Wilkins lectured on the subject of his experiment lately at the London Tavern.

TENDERS

For Model Buildings, Lambeth:—

Lee and Son	£13,650	0	0
Kelk	12,900	0	0
Piper and Son	12,690	0	0
Lock and Nesham	12,545	0	0
Jackson	12,180	0	0
Hayward and Nixon	12,137	0	0
Cubitt and Co.	11,990	0	0
Lucas (Brothers)	11,938	0	0
Crosweller	11,897	0	0
Jay	11,866	0	0
Myers	11,560	0	0
Grimsdell	11,481	0	0

For alterations to a House, in Church-street, Camberwell, for Mr. J. Griffin. Mr. J. Burrell, architect:—

Piper and Son	£1,410	0	0
Nicholson and Son	1,220	0	0
Colls and Co.	1,145	0	0
Thompson	1,083	0	0

TO CORRESPONDENTS.

Islington Infant Poor Establishment.—Messrs. Hill and Briand state that the architect ultimately selected had engaged in the competition, but they offer no excuse for the fact that the cost of the design selected, a tar all, far exceeded the stipulated amount.

"Boreas," "L. K." "E. H. L." "C. E." "C. G." "H. H." (We shall be glad to see it), "J. R." "C. J. C." (apply to a proper party), "J. S." (under our mark), "B." (ditto), "F. D." "W. R. C." "G. L." "R. S." "B. S." "J. R." (answer would depend on terms of indenture: ordinarily, we should say, an articled pupil had no such right), "J. B." "J. E." "C. H." "H. S. C." "A Professional Brother," "P. S." "W. C." "T. L. D." "An Old Subscriber," "A. S." "W. D."

Notice to Subscribers.—A title-page in colours for the last volume may be obtained *gratis* by those who prefer it to that which accompanied the index in the closing number, on personal application at the Office. Covers for the volume may be obtained at the Office, price 2s. 6d. or the publisher will bind it for 3s. 6d. The complete volume may be obtained, price 21s.

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